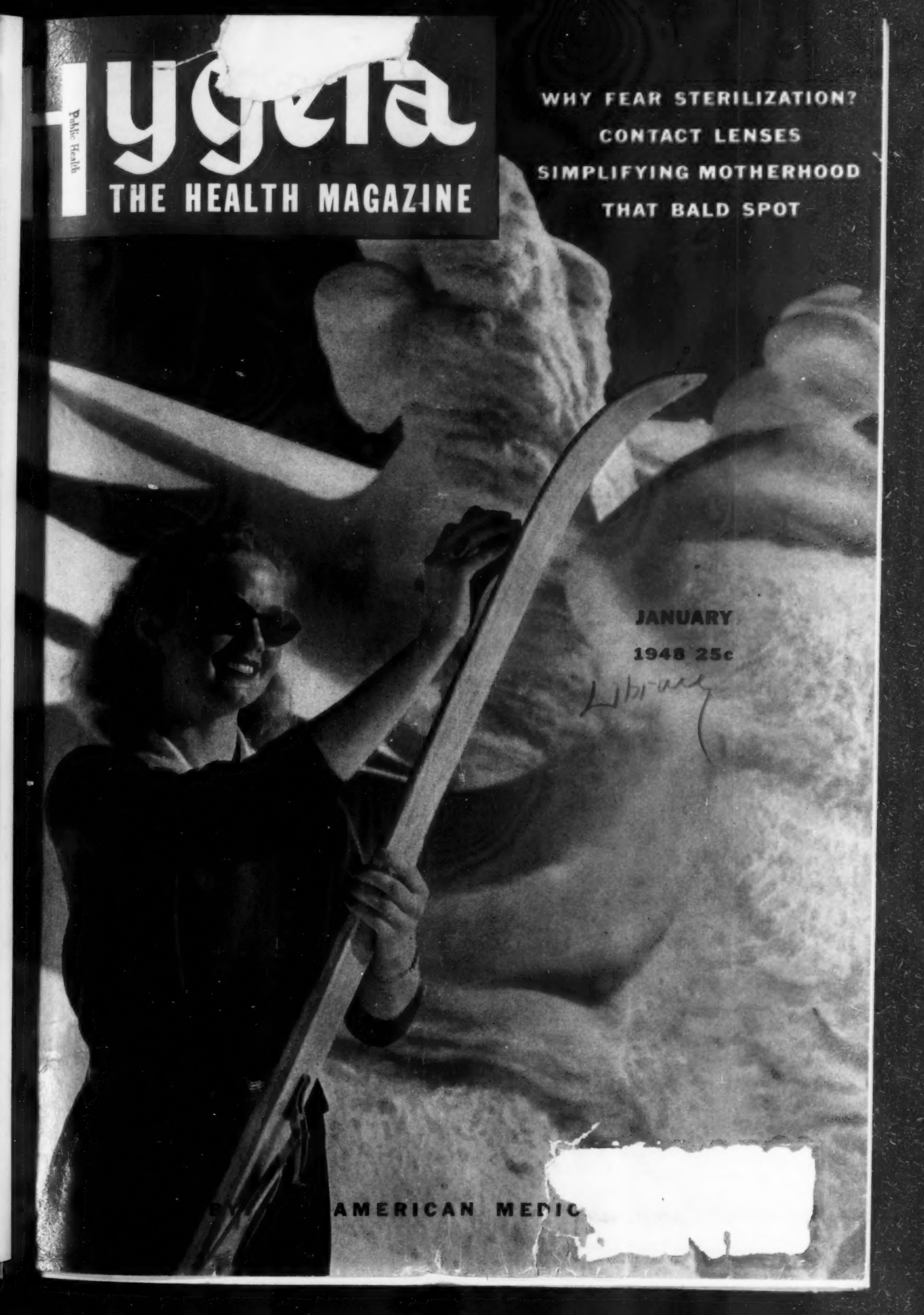
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Acid Drinks

Question: Is it true that too frequent drinking of lemon juice and soft drinks is apt to have a destructive effect on the teeth? My son loves lemon juice, and even sucks on a half a lemon occasionally. What harm may result?

Maine

Answer: Reports in the dental and experimental literature have indicated that lemon juice, which contains citric acid, and various soft drinks containing phosphoric acid, may produce some destruction of the tooth substance if taken regularly over periods of months or years. A checkup with the dentist would be the most satisfactory way to determine whether this has occurred in the individual case. The changes that appear may not be apparent to the average individual until extensive loss has occurred.

Teeth and Polio

Question: A friend has told me that an important reason why children should have regular dental check-ups is that if the teeth are not in good condition the child is more apt to get "polio." Is there any truth to this?

New York

Answer: Your friend apparently is referring to surveys made a few years ago by U. S. Public Health Service physicians. In these studies, it was found that there was a high incidence of tooth defects, and especially exposure of the tooth pulp, among children with infantile paralysis. This was much less common among children who did not catch the disease. The evidence is suggestive but not entirely conclusive, for it is believed there are probably several ways by which the polio virus gains entrance to the body. Before any final statement can be made regarding the possible relationship of tooth decay and polio infection many more surveys of large parts of the population will be required. Otherwise the matter of coincidence would be an adequate explanation. However, it is recognized that one of the best safeguards against polio is satisfactory general physical condition. This presupposes proper care of the teeth as well as other parts of the body.

The Albino

Question: I have an 11 month old son who, I believe, is destined to be an albino by reason of inheritance from his grandmother's brother. The latter is the only one we know of in the family who was an albino. I know it is nothing to get alarmed about, but I would like to receive some explanation of it and also any suggestions about what might be done. A specialist has stated that the boy is definitely albino, though there is color in his eyes. Are there any vitamins or other preparations that would be of aid?

Mississippi

Answer: In an albino there is a deficiency in development of pigment. This may be complete, involving the skin, hair, eyebrows, lashes and inner pigmented layer of the eyes, or incomplete, in which only part of these structures are involved. Sometimes only part of the eye is affected. If there is a serious lack of pigment in the inner layers of the eye, too much light may enter, so that a sharp clear image is not produced on the retina and vision is poor. Along with this there is a condition known as *nystagmus* in which the eyes move rapidly from side to side. The pupils have a pinkish or red appearance. The iris (the colored part of the eye) also has only a small amount or no pigment at all, so that light passes through it. Because too much light enters the eye, an albino often frowns or squints to keep out as much light as possible.

Your baby may have all of these signs, or only part of them, depending upon the amount of pigment deficiency. It would be wise to avoid taking the baby in bright light and to shield him as much as possible from glare. As soon as possible he should have an eye test, since nearsightedness and astigmatism are very common in albinos. Proper glasses, with a dark tint, should be worn to give him the best vision possible. Shatterproof or good tempered lenses are advisable in young children. If light bothers too much even with the dark glasses, goggles to keep light from entering on the side may be worn.

It is extremely doubtful that vitamins or any other type of medicine will alter the pigment development. However, since vitamin B has been found to influence pigment formation in other types of cases, you might consult your doctor regarding its advisability for your child. The main treatment should be directed toward reducing glare and giving the baby the best vision possible.

The colors of the human skin are

(*Continued on page* 10)

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WHO'S WHO in Hygeia

THE STERILIZATION QUESTION

DR. CLARENCE J. GAMBLE, a graduate of Harvard Medical School, has been engaged in teaching and research there and at the University of Pennsylvania. He is a medical consultant of the Human Betterment League of North Carolina. Interest in the effect of heredity on the intelligence of the next generation led him to make a quantitative study of the children born to college graduates. His observation that the men fail to replace themselves by some 20 per cent and the women by 35 per cent led him to review the means available for decreasing the quantity of inherited defects. One result is his article on page 22 on sterilization, "a surgical procedure of value where a mental or physical handicap makes parenthood permanently undesirable, from the standpoint either of the patient or of the children who might be born."

PUBLIC HEALTH WORKER

"Autobiographically speaking, I, M. J. KNISELY, have a warm spot in my heart for HYGEIA for officiating at my birth as a writer. 'Your Blood Test' was published in the January, 1944, issue. Between then and now there was a long gestation period, including a degree in bacteriology, dinner table lectures from the doctor of the family and several years of laboratory work. Having spent four years in public health work, I'm always alert to such problems as that presented at Kew Gardens."

BIOPHYSICIST

Though a man of science, CHARLES SHEARD, author of "Contact Lenses" is interested in the civic affairs of his home state of Minnesota as evidenced by his selection as Chairman of the Olmsted County Planning Commission. Recently Rear Admiral Swanson appointed him an honorary consultant in the Bureau of Medicine and Surgery of the Navy. In addition to being director of the division of physics and biophysical research at the Mayo Clinic, Rochester, Minn., Dr. Sheard has been directing member of that institution's Aero-Medical Unit since 1941. Founder of the Sheard Founda-

(*Continued on page* 14)

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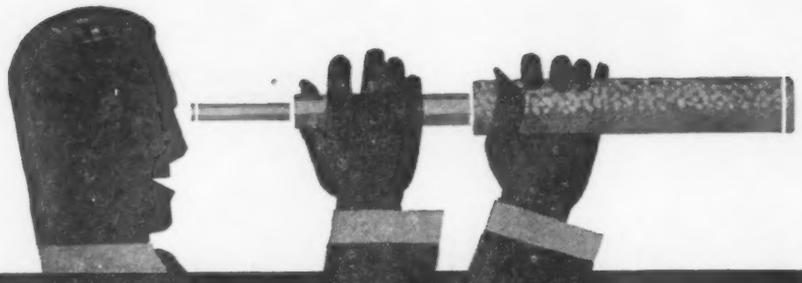

Coming in HYGEIA

STRAIGHT FACTS ABOUT HEART DISEASE

By Walter Modell, M.D.

There are five main causes of heart disease—rheumatic fever, syphilis, goiter, hardening of the arteries and high blood pressure. Three can in considerable degree be prevented. Already syphilis and goiter are declining. The fight against rheumatic fever involves causes outside the field of medicine, for it is most common in areas of overcrowding, exposure and malnutrition, but it is not beyond the power of intelligence and good will to reduce these causes also; in areas where housing has been improved, such as London, rheumatic fever has declined. Only in hardening of the arteries and high blood pressure are we without a means of prevention. Even when heart disease has developed, great advances in treatment have made the outlook better than ever before. This clear and authoritative article is scheduled for the February HYGEIA.

ARE THERE TOO MANY PEOPLE IN THE WORLD?

By Halbert L. Dunn, M.D.

In a day when the dominant social concern of many scientists is the possibility of depopulation of the urban world by scientific warfare, including the atom bomb, this eminent student of population trends raises the opposite question: will science, including atomic science, so reduce the death rate in the congested and backward areas of the world that population pressures will be raised to the explosion point?

ASTHMA: A PROBLEM IN PREVENTION

By Alene Seymour and Robert P. Little, M.D.

While new discoveries in treatment offer much promise in asthma, it is perhaps of greater significance that the disease generally begins early in life and that if promptly recognized and treated it may be prevented from becoming an Old Man of the Sea. The means of early recognition, the causes, the effects of allergy, infection, psychologic influences and climate and the accepted means of treatment are set forth in this comprehensive article.

THOSE UNCONSCIOUS SLIPS

By James A. Brussell, M.D.

Have you ever made a slip of the tongue or typewriter that put both you and your audience "on the spot" because it was *too much* to the point? How these embarrassing lapses arise and what they mean is set forth by a popular HYGEIA writer in an article that is both instructive and entertaining.

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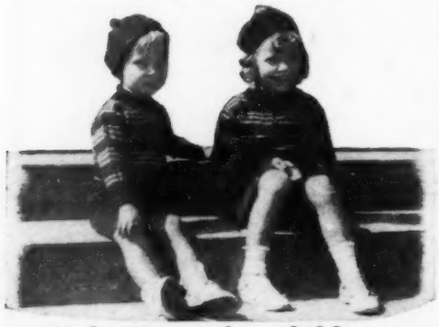

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QUESTIONS and ANSWERS

Cleaning Fluid Fumes

Question:—Is the carbon tetrachloride contained in some cleaning fluids dangerous? What is its chief effect?

Montana

Answer:—Carbon tetrachloride may be available full strength or in combination with other solvents as a cleaning material. It is a poisonous drug, having not only immediate but also delayed effects when used over prolonged periods. The latter are produced in part as a result of absorption of the substance through the skin. Immediate effects are produced by inhalation of the fumes. The action of carbon tetrachloride is somewhat like that of chloroform, and it was at one time used occasionally as an anesthetic. With recognition of its poisonous effects, this was abandoned. Chief damage is done to the liver, a condition known as fatty necrosis developing. The ordinary use of tetrachloride-containing cleaning fluid, in small quantity and with good ventilation to prevent pocketing of the fumes, can be considered safe and free from any special hazard to the health.

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Question:—My hair has been getting quite thin. I understand that normally there is a cushion of fat beneath the scalp in which the hair roots lie and from which they obtain their nourishment. My scalp feels very tight, and there does not appear to be any cushion of fat present. Is there any way in which I can build up this fat layer to help my hair growth?

Tennessee

Answer:—The idea that the hair roots lie in and are nourished by a special fat layer beneath the skin is mistaken. Actually, the hair, as an appendage of the skin, does not penetrate beneath the innermost layer of true skin. Anyone can demonstrate this by noting that there is no bleeding when a hair is plucked. Hairs are coated with an oily substance, but this comes from a special gland that lies near the hair root and opens into the channel through which the hair shaft grows to the skin surface. Once baldness has set in there is usually little that can be done to correct it. Mild stimulation of the scalp may be of some assistance by promoting a more abundant blood supply to the area, but tonics or lotions as such are of no value. Baldness is recognized to be hereditary, at least to some extent, and cannot be expected to respond satisfactorily to external treatment.

What Good Is Meat?

Question:—I have abandoned eating of all meat, because I do not believe it is essential, but would like to know other satisfactory sources of phosphorus in the daily diet. Is it an essential element?

Ohio

Answer:—Eggs, cheese, fish, milk, whole grain breads and cereals are ordinary dietary items comparatively rich in phosphorus. None of these needs to be taken to excess to correct any inadequacy that might result from elimination of meat from the diet.

Phosphorus, although required in relatively small amounts, is an essential element in proper development and maintenance of teeth and bones. It also is an important factor in normal glandular metabolism, and is present in relatively large amounts in nervous tissues.

It should be pointed out that you

Answers given here are limited to brief replies to specific questions. Full discussion is not intended. Questions involving diagnosis or treatment should be referred to the family physician.

are overlooking perhaps the chief reason for including meat in your diet: that is, the provision of the proper amount and variety of amino acids to act as necessary building stones in the repair and replacement of tissue proteins. Without meat, such a supply is far more difficult to maintain, especially if milk and eggs are omitted.

That Vanishing Pound

Question:—My physiology class has been having a discussion about the weight of a person after he has eaten a pound of food. Will he weigh one pound more directly after he has eaten the pound of food? This has been tested by some of the students, but they disagree, the majority saying they do not weigh one pound more. Is this correct?

Indiana

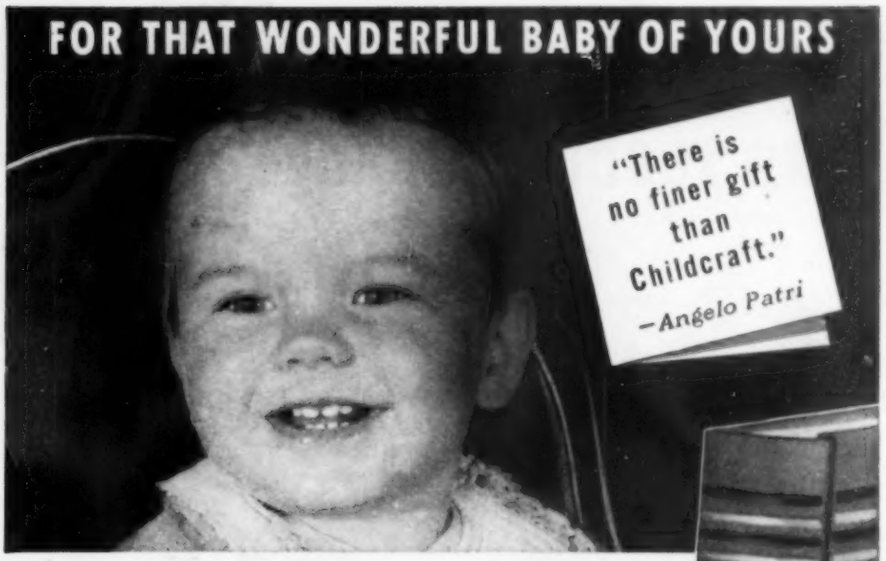
Answer:—To take a pound of food into the stomach is to add that much to the weight of the body, just as if one held the pound of food in the hand while being weighed. However, the body is constantly losing weight through insensible perspiration, the moisture carried off in the breath, and the constant heat production which required burning of various substances that go to make up body weight. Therefore if one spends even the little time that might be required if the pound of food were eaten rapidly, except by coincidence he will not weigh exactly one pound more than he did when weighed before the meal.

Heat Lamps

Question:—What are the uses and benefits of infra-red lights? What precautions must I employ in using such an apparatus?

Minnesota

Answer:—Infra-red rays are nothing more than heat rays. Those coming from a lamp differ in no way from the heat obtained from an open fire. There are no mysterious benefits to be obtained from an infra-red lamp. Application of heat is often helpful in treating a variety of disorders ranging from sprains and strains to inflammations in superficial areas of the body. A lamp is a convenient method of applying heat, and with it the heat can be concentrated satisfactorily on the area requiring it. As with any source of heat, usual precautions against burning the skin must be observed. It probably should not be used on patients who are unconscious or otherwise unable to protect themselves from overexposure, or on those who have loss of sensation in the part to be treated. As with any source of light, it is not advisable to gaze fixedly at such a lamp for any appreciable period.



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Information for Mothers

(*Continued from page* 3)

due in the main to the presence of two pigments, one yellow, one black. Different racial colorations are due to the relative proportions of these. In albinism the black pigment is absent and the yellow, if present at all, is there only in small quantities. The pink eye-color of the albino results from visibility of the circulating blood of the retina through the transparent front tissues of the albino's eyes.

From the standpoint of heredity albinism is what is known as a simple Mendelian recessive. That is, a mating between a normal person and an albino results in normal offspring, although the offspring are capable of transmitting the condition. A mating of two carriers of albinism would probably yield one albino child to three apparently normal children, although two of these three would be carriers of the condition, as were their parents.

Because of this tendency to build up carriers, after a few generations there will be far more carriers than actual albinos in a stock in which albinism has arisen. With the mating of any two of these carriers the expectation is that one out of four of their children will be an albino. When an albino child appears, then, it is likely to be the product of albinism carried in each parent stock.

Partial albinism is also known. In such cases the hereditary factors for both color-base and color-producer are present but some other agency—possibly the faulty secretion of some endocrine gland or the inadequate functioning of some vitamin—interferes with their interaction.

If the child referred to in the inquiry has a pigmented iris, then he is not a complete albino. He probably has both hereditary factors for pigmentation but also carries some inhibitive factor. Most brown-eyed persons are born with blue eyes, the brown pigmentation appearing only gradually in early infancy. If the child turns out to be a true albino and the grandmother's brother was an albino, as stated, then it is probable that the grandmother was a carrier and transmitter of the condition. However, the expectation would be that not only the parent who was her child was a carrier but that the other parent was also one.

Skin pigmentation inheritance is sometimes erratic, however, and as an extreme, spotted coating is not unknown in the third or fourth generation descendants from a cross between a person with heavily pigmented skin and a fair-skinned individual. The white forelock which often runs through several generations is a simplified form of such spotting.

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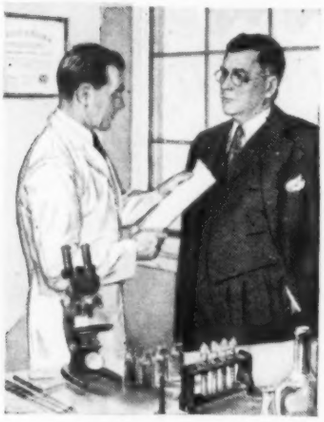
ASK ANY GUILD OPTICIAN FOR THE NAMES OF EYE PHYSICIANS IN YOUR VICINITY

PNEUMONIA IS BEING CONQUERED

WHAT SCIENCE IS DOING

1. Before 1930, pneumonia stood among the first three causes of death. Once the disease struck, careful nursing and the use of oxygen were about the only ways of fighting it. The death rate was about 83 per 100,000.



2. 1930 to 1938, *serum treatment* for the most common forms of pneumonia was started and developed. This involved, first, laboratory analysis to determine the particular type of the disease and, second, administering a serum known to combat the disease if it were one of certain types. Pneumonia's death rate dropped, and in 1938 was about 67 per 100,000.

3. From 1938 on, modern medical science has scored one of its most dramatic successes. First the sulfa drugs, then penicillin and streptomycin have proved effective in combatting many types of pneumonia. While the death rate from pneumonia had been reduced to less than 40 per 100,000 in 1946, this disease is still a frequent cause of death.

WHAT YOU CAN DO

1. Try to avoid catching a cold. If you keep your general level of health high, especially during the "pneumonia months" of January, February, and March, you won't be as susceptible to colds or pneumonia. Be careful to dress warmly when you go out, and try to avoid people who cough or sneeze carelessly. It is estimated that 9 out of 10 pneumonia cases start with a cold.

2. If you get a cold—take care of it! You will protect yourself from possible pneumonia, and you'll protect others from your infection. Stay home and rest if you can. If you must go out, keep warm and dry. Eat lightly, and drink plenty of fruit juices and other liquids. When your children have colds, keep them at home to protect their health and that of their classmates.

3. If your cold hangs on, or if your temperature goes up, or if any other unusual symptoms appear, go to bed and *call your doctor at once!* It may be only a severe cold, but if it should be pneumonia, or influenza, or some other illness that starts like a cold, your best chance for a rapid recovery will come from prompt diagnosis and immediate medical and nursing care.

To learn more about how you can guard against colds, pneumonia, and influenza, send for Metropolitan's free booklet, 18-Z, "Respiratory Diseases."

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TO VETERANS—IF YOU HAVE NATIONAL SERVICE LIFE INSURANCE—KEEP IT!

Who's Who

(*Continued from page 4*)

tion for Education and Research in Vision, Ohio State University, he has an honorary life membership in the American Optometric Association and is on the Board of Directors of the National Society for the Prevention of Blindness. Author of such books as "Practical Ocular Tests" and "Life Giving Light" (Century of Progress Series), he has done research on dynamic ocular tests, relationship between accommodation and convergence, effects of radiant energy on plant and animal tissues, heat losses and temperature regulation of the body and other subjects. In 1921, he was invited to give the fourth Thomas Young oration in London.

FOR BABY'S COMFORT

DR. FRANK HOWARD RICHARDSON, of the Children's Clinic at Brooklyn, is a consultant of the New York state Department of Health, vice-dean, Southern Pediatrician Seminary, Saluda, N.C., past president of the Brooklyn Pediatric Society, and Consulting Editor of the *Archives of Pediatrics*. He has contributed papers to numerous medical journals and chapters to such books as "Parenthood and the Newer Psychology," "Rebuilding the Child," "Nervous Child and His Parents," and "Preschool Child." "Simplifying Motherhood" appears on page 30.

"THE SPUD AND I"

Born on an Illinois farm, BEATRICE WILSON writes: "I am a believer in a backyard garden for spare time fun. For a number of seasons, my Irish potatoes would wink their eyes and then say 'Learn of us, we are mighty healthy vegetables.'" A graduate of DeKalb Teachers' College, DeKalb, Illinois, Miss Wilson adds, "There isn't a thing created which I do not find interesting. I'm sure the world will never grow monotonous." She contributes articles to farm journals, children's papers and business magazines.

LAWYER IN HOSPITAL WORK

STEPHEN THIERMANN explodes superstitions about mental illness in his article on page 46. Graduate of Haverford College and the University of Wisconsin Law School, he was practicing with the Milwaukee Legal Aid Bureau when drafted into Civilian Public Service. He served for three years in state mental hospitals. For a year and a half Mr. Thiermann was legal associate and executive assistant in the National Mental Health Foundation. Currently he is executive secretary of the Northern California Branch, American Friends Service Committee.

The Chronically ILL

AN EDITORIAL

By MORRIS FISHBEIN

EACH year chronic diseases cause almost a million deaths. At least a billion days of productive work are lost through chronic disabilities. In 1900 one person in 25 in the United States was 65 years of age or older. Gradually life is being extended for more and more people; population experts estimate that 10 per cent of our population is over 65 years of age today.

The most important chronic diseases are heart disease, hardening of the arteries, high blood pressure, nervous and mental diseases, arthritis, diseases of the kidney, tuberculosis, diabetes and asthma. So important have these conditions become that four leading medical organizations, including the American Hospital Association, the American Medical Association, the American Public Health Association and the American Public Welfare Association, joined recently in a consideration of the planning necessary for the chronically ill.

A chronic disease is one that may be expected to require an extended period of medical supervision and care in a hospital or an institution with nursing. In eight states—California, Connecticut, Illinois, Indiana, Maryland, Massachusetts, New Jersey and New York—official action is being taken toward solving the problem. Moreover, four cities—Chicago, Cleveland, Milwaukee and New York—are also giving the subject official consideration. Chronic illness affects nearly every family. More than one-sixth of our population, including as many as 25,000,000 persons, are reportedly subject to some one of the diseases that have been mentioned. Special provisions have been made for tuberculosis and mental diseases, but little has been done for some of the others. Incidentally, chronic diseases are not necessarily diseases of the aged. At least one-half of persons who are chronically ill are below the age of 45, and 16 per cent are under 25 years of age. The problems of children, particularly such as are chronically ill with rheumatic fever, are especially important.

As with many other medical problems, the answer to some of the difficulties in the field of the chronically ill can be solved by research. There are already research projects on kidney diseases, hardening of the arteries, malaria and hardening of the liver. Unfortunately, however, not nearly enough beds are available in hospitals with adequate laboratory and research facilities to attack these problems with all of the knowledge and technics that modern medicine has available. Through the National Institute of Health research is being undertaken against heart disease, cancer and mental disease.

Some positive suggestions must be kept in mind in the solution of the problems of the chronically ill. Far too often the institutions in which they receive care are situated on the outskirts of cities or even in rural areas difficult to reach. Hence the medical advice available and the associated laboratories are not applied to either the care of those who are sick or to solving their problems. The care of the chronically ill is inseparable from general medical care. Probably hospitals for the chronically ill should be situated near to medical schools and teaching hospitals. The Veterans Administration has recognized this principle. Facilities for the care of the chronically ill should be planned for the community as a whole and not merely for the indigent. Many communities have institutions in which paupers are given care, whereas persons in the low income groups or even those well able to pay cannot have access to proper facilities. The major emphasis in caring for the chronically ill should be designed to return them to useful life in the community. Otherwise there comes to be a tendency simply to permit those who are chronically ill to lie until some secondary infection or other uncontrollable condition brings on death.

The problems of the chronically ill will be solved only when there is complete cooperation and coordination of the many agencies now concerned with such diseases. The health, welfare and education departments, hospitals, medical societies, medical schools, social agencies, rehabilitation services and institutions in which the chronically sick and disabled are now cared for must work together to secure adequate knowledge of the need and to develop plans for progress in meeting the need.

CUE AT KEW GARDENS

THE STORY OF RICKETTSIALPOX, A "NEW" DISEASE

A "new" disease, mysterious and appalling, filtered through the Kew Gardens subdivision in New York in 1946. Doctors were perplexed. As it moved ominously through the three block area it was nabbed by the U.S. Public Health Service—like a dangerous sea monster caught in some huge, man-made net. Unlike a single insidious monster, however, it promises to be a worldwide threat to man.

Fortunately it does not seem to be a fatal disease. But its chills and fever, intense headaches, and rash are well worth avoiding—as are the lost time and the expense. And it can be avoided.

Forty-seven year old Benny Brinks didn't know that when on June 9, 1946, he called Dr. Leon Sussman of Manhattan. Brinks had chills and fever, weakness, and a headache so excruciating he half wished he could die and be done with it.

He did know that some seventy-five persons in the three block Regency Park development had complained of the same general symptoms in the past several months. The doctors had sometimes called it atypical chickenpox. But surely none of the patients had had a headache as bad as this. And he couldn't endure the light; it hurt his eyes.

Dr. Sussman took his temperature and found it was 103. He found something else that looked significant—a small sore in Brinks' right armpit. Brinks said he hadn't paid much attention to it; it hadn't hurt or itched. But it had turned black and was scaling off.

"No," he said, "I don't remember being bitten. We don't have many flies and mosquitoes and things like that around here."

But whatever it was, Brinks had to go to Willard Park Hospital, where he stayed two weeks under penicillin treatment. He broke out in a rosy rash shortly after his entrance. From then on he began to improve, but he wasn't his old self again for a month.

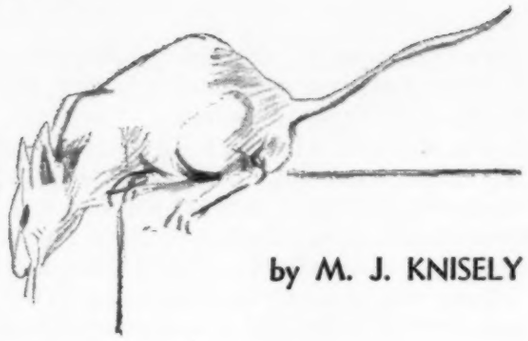
Worse yet, he had only been home from the hospital two days when Mrs. Brinks came down with the same disease.

Her 72 year old mother came over from Manhattan to see what she could do for the sick folks—and seven days later she called Dr. Sussman to recite the now familiar symptoms. She had a small sore on her left shoulder, but she couldn't remember being bitten by any insect.

Across town Dr. Benjamin Shankman was mystified by the number of these strange cases that came into Queens General Hospital. There had been about sixty of them—from an 11 year old boy to a 42 year old policeman, to a 25 year old housewife; and including babies and small children. There were always the sore that turned black and scaled off, leaving a scar, the chills and fever, the headaches that all but make men mad. There were the weakness and the blossoming rash.

The New York City Health Department was notified, and the Public Health Service's help was solicited in July. Scientists from these agencies, working with local doctors, succeeded in writing into the annals of medicine a disease that man has never before known he was heir to.

There were Drs. Morris Greenberg, Irving Klein and Ottavio Pellitteri of the New York City Health Department; Drs. William Jellison and Robert J. Huebner of the Public Health Service. One of the



by M. J. KNISELY

first things to be investigated, these men thought, was the food and water supply.

There were several markets in the vicinity, and they came under scrutiny to determine whether the infection was spreading through some common article of food. But other people in the surrounding neighborhoods bought food at these markets; yet the epidemic was confined to the three block Regency Park development.

The same was true of the milk sold in the Gardens. Outsiders who were not ill used the same supplies.

The scientists turned to the water supplies. But the water was found to be uncontaminated and inspection of kitchens and bathrooms turned up nothing that appeared to be defective.

Then began a study of the vacant lots and unused areas in the vicinity. A nest of mosquitoes was found in the basement of an unfinished building. This led to a search of basements in the housing development, and mosquitoes were found to be fairly abundant in the dark corners.

But the search went on in the shrubbery for ticks. None was found. Then Charles Pomerantz of the Bell Exterminating Co. was called in to look for any kind of rodents or insects that might be incriminated. Several of the apartment owners had dogs—though it was against the rules. Yet for the most part they were clean, well kept dogs, and all were free of ticks.

Tenants began to take an interest in the hunt. They followed investigators around and put in complaints about the mice in the development. They told of mice scurrying around basements, haunting the kitchens, climbing between the walls and running through the courtyards.

It was true there were a lot of mice. The basements seemed to be colonized by the creatures. The investigators set traps for them, in hopes some disease carrier such as fleas could be found.

It was about this time that the exterminator, Charles Pomerantz, said he had found some very tiny mites on the basement walls.

And the laboratory reported they had found rickettsia in the blood of one of the patients.

Rickettsia bodies have long been known to science. Back in 1909 Ricketts and Prowazek, two scientists who lost their lives in their work, found these small bodies in the blood of patients suffering from Rocky Mountain spotted fever. Then similar bodies were found in victims of typhus fever, and lice that had fed on typhus patients.

In later years these rickettsia bodies were found in tsutsumagushi fever and Q fever. And now the laboratory found them in the blood of patients suffering from this new disease, and by serological tests proved these rickettsia were similar, though not identical with, the ones that cause Rocky Mountain spotted fever.

With this information the new disease was named rickettsialpox—literally, a "breaking-out" disease caused by rickettsia.

Now the mites and the mice were tracked in dead earnest. Pomerantz brought machines with suction pumps on them to draw mites off the walls and into vials. Most of them were clinging to the outside walls of the incinerators in the basements. Some were flat and colorless. Others were fat and bright red. They were engorged with blood.

The mice also liked to congregate around the incinerators. They were veritable rodent cafeterias. Tenants discarded garbage and other refuse in the chute, and it fell to the incinerator grate below. It should have been fired twice—at least once—a day. But janitor help was hard to get. Even when the incinerators were fired, much of the garbage accumulated in the lower compartment. It was apparent why mice found these basements an ideal home.

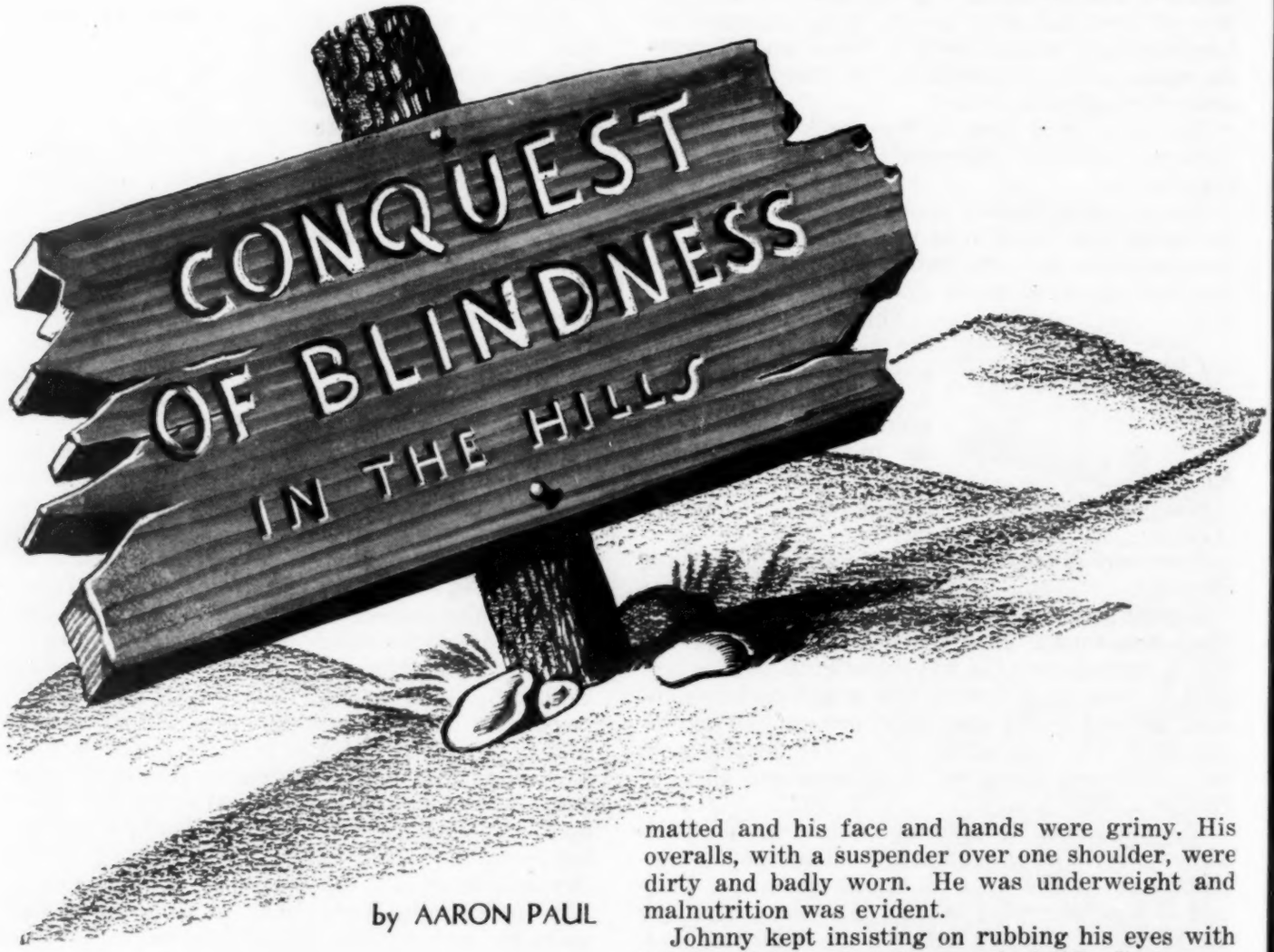
The trapped mice and the vials of mites were examined in a hastily set up laboratory in one of the buildings. There were as many as ten mites on the rump of a single mouse. Some of the mites were sent to Dr. E. W. Baker of the U.S. Department of Agriculture. He identified them as *Allodermanyssus sanguineus*. Little was to be found about them in the textbooks, and the investigators queried Washington to know if these mites could feed on man. The Department of Agriculture replied that they could. When the studies were done, for all practical purposes the mystery was solved. The bite of infected mites was causing rickettsialpox.

But the scientists went back to the apartments to see what other evidence they might find. In two cases they discovered mice had actually been found in the beds used by patients. In another apartment there were clear signs that mice had been in the beds. And three housewives remembered finding blood spots on the sheets.

Strangely enough, patients could not remember having been bitten by the mites. Yet the black, scal-

(*Continued on page* 55)

CONQUEST OF BLINDNESS IN THE HILLS



by AARON PAUL

ON ALMOST any day when the weather is warm and the sun is shining brightly, there may be seen standing at the broad window of the Irvine-McDowell Memorial Hospital in Richmond, Kentucky, the graying figure of Dr. Robert Sory, its director. For twenty-five years Dr. Sory has been engaged in the treatment and prevention of trachoma, a dreaded eye disease which has brought partial or total blindness to thousands living in the mountains.

Endowed with the combination of all the charm of a Southern gentleman and the dignity of his profession, Dr. Sory is considered by many physicians to be the world's greatest authority in trachoma treatment. He enjoys telling the story of the progress which has been made in reducing the tide of trachoma from a raging torrent to a mere trickle. He also takes great pride in watching his patients at play on the spacious lawn or strolling beneath the spreading pines. He can relate hundreds of stories to illustrate the advancement of medical science in combating this eye disease, which for generations was thought to be incurable.

For instance, while standing at his favorite window one day, Dr. Sory pointed to Johnny, 12 years old, who was playing ball on the lawn with other boys of his age. By observing Johnny no one would suspect that, just thirty days before, he was practically blind from trachoma.

The story of Johnny goes back to the time a visiting nurse from the Trachoma Hospital found him under the bed in a darkened room in a cabin far back in the hills. The nurse knew one of the older members of the family had trachoma but she had not heard of Johnny until that day. When the nurse saw Johnny's foot protruding from under the bed she was curious to know about him. His mother explained, "Johnny just don't like the sun. . . . He's kinda queer." With her aid, the nurse finally succeeded in extricating Johnny from his hiding place for an examination. His red hair was long and matted and his face and hands were grimy. His overalls, with a suspender over one shoulder, were dirty and badly worn. He was underweight and malnutrition was evident.

Johnny kept insisting on rubbing his eyes with his dirty fists, so that the nurse had difficulty in completing the examination. His eyes were so sensitive to light that his eyeballs would roll out of focus. The lids were red and granulated—indications of the presence of trachoma. Johnny resisted the examination and his behavior, along with his mumbled speech, made the nurse suspect that he might also be feebleminded.

The nurse finally convinced the mother that Johnny should be taken to the Irvine-McDowell Hospital for treatment. He responded well to the treatment; within a month his vision had been restored —and it was apparent that he was a perfectly normal boy.

The case of Johnny could be multiplied by the thousands but it is not to be considered typical since Dr. Sory explained there are no typical cases. An equal number of persons with trachoma come from wealthy homes where poverty and insanitary conditions are nonexistent. Trachoma has occurred in professional athletes in perfect physical condition, where malnutrition could not have been a factor. The contrast of these various cases, explained Dr. Sory, makes the problem of treatment and prevention of this disease more difficult.

The advancement in the discovery and treatment of people like Johnny has made it possible to reduce the ravages of trachoma in the Kentucky Mountains from over 30,000 cases in 1912 to the low average of twenty cases in the Trachoma Hospital at the present time. At one time there were five trachoma hospitals in Kentucky along with a similar number in several other states. Now there are only two in the entire United States, this hospital at Richmond and a similar institution in Rolla, Missouri.

Trachoma is not a new disease. Historical records indicate that in ancient times trachoma was recognized and treated in many countries, and it is not surprising that explorers and settlers spread the disease to the far corners of the earth. In 1930, it was estimated that 90 per cent of the population of Egypt were suffering from trachoma and that 25 per cent of the population in China were afflicted. Other countries affected were Brazil, Syria, Ireland and Russia.

In the United States, trachoma is not confined to any particular area, but in general it is prevalent in the states of Kentucky, West Virginia, eastern Tennessee, western Virginia, southern Missouri, Arkansas and Oklahoma.

Trachoma is a disease in which the eyelids become granulated, thickened and red. The symptoms are watering, itching and burning, or a sensation of a foreign substance being in the eye. Under such conditions, light causes pain in the eye and the sufferer avoids sunshine. While the disease begins in the eyelids, the eyeball usually becomes involved. In the course of the disease, scars form on the inside of the lid and soon these scars contract, and the edge of the lid is pulled inward causing the lashes to scratch on the eyeball. This not only causes pain but adds to the cloudiness of the eye which results in partial or total blindness.

The campaign against trachoma in Kentucky actually started in the year 1910, when Dr. J. A. Stuckey, an ophtalmologist or eye specialist of Lexington, noted that a great number of trachoma cases were coming to him from the mountain regions of the state. Since his professional curiosity was aroused, he, assisted by two nurses, spent a working vacation in the mountains. During this trip, Dr. Stuckey visited schools, homes and every other place where he was permitted to make examinations. To his amazement, he discovered that nearly every family had at least one trachoma victim and in many instances entire families were afflicted.

Immediately after his return to Lexington, Dr. Stuckey attended the annual meeting of the American Academy of Ophthamology at Boston, Massachusetts. Although the Society listened to Dr. Stuckey's report on the tremendous number of trachoma cases discovered in eastern Kentucky, they were not seriously impressed. Perhaps they were too far removed from the problem, or they may have believed the report exaggerated. Dr. Stuckey returned home deeply depressed. But he was not defeated. He immediately reported his observations to the Kentucky State Board of Health. Now he had planted the seed in fertile soil. The Board of Health considered the problem serious enough to request the assistance of the U.S. Public Health Service.

In 1912 the Public Health Service assigned Dr. John McMullen to continue the survey begun by Dr. Stuckey. His study was to be conducted in sample counties in order to determine the extent of the trachoma problem in the entire Kentucky mountain area.

When Dr. McMullen arrived in the mountains of eastern Kentucky, he found a vast wilderness completely isolated from the outside world. The remote sections had no railroad facilities and the only means of transportation was by horseback or wagon over narrow winding trails which were, in most cases, the rocky beds of streams. The silence was occasionally broken by the lonely song of the whippoorwill, the yowl of a bobcat or the ominous report of a long squirrel rifle. Some of the well known mountain feuds were still aflame and strangers were looked upon with suspicion. Dr. McMullen was faced not only with the physical difficulties of a strange country but, even worse, with the hazardous task of penetrating the traditional shell of a people who wanted, most of all, to be left alone.

Fourteen sample counties were selected for Dr. McMullen's survey. He went about examining persons in about the same way as had Dr. Stuckey. He made examinations in the homes, schools, churches, on the street corner, the Court House lawn or any other place where he could obtain permission. By 1913 he had found 18,000 cases of trachoma in various stages. Projecting this survey into the thirty-five counties composing the entire mountain area, he estimated that there were at least 33,000 cases in eastern Kentucky alone, with a comparable number in the adjoining states of (*Continued on page* 68)

THE TIME may come when your doctor will say, "You should not have any more children; we should plan to give you the permanent protection of sterilization."

Because this operation is relatively new, there are many persons who do not understand it, or who confuse it with castration. They have heard of the barnyard form of sterilization in which a bull calf is turned into a steer and a rooster chick into a capon by the removal of the sex glands, and they believe that human sterilization must be accomplished in the same way. They fear that a sterilized man may develop a soprano voice or that a woman may grow a beard, and that both may lose all sexual interest. Extensive medical statistics, based on the reports of patients many years after the operation, show that these changes do not occur.

Why Fear

by
CLARENCE J. GAMBLE

In tubectomy, the modern operation for sterilization in both men and women, nothing is removed from the body. The surgeon simply locates and ties off the small tubes leading from the sex glands, preventing the further passage of the female cell, or ovum, and the sperm cells of the male. These minute cells are then absorbed by the body and the sterilized person can detect no change in appearance, feelings or desires other than the fact that no children are produced. Human sterilization is, therefore, altogether different from castration which removes the ovaries or testicles.

For either sex sterilization is a relatively uncomplicated operation. In a woman the Fallopian tubes which guide the egg from the ovary to the uterus lie in the lower part of the abdomen. To reach and close them the surgeon performs a salpingectomy—a procedure much like the simple removal of an appendix in the quiescent stage when it is not inflamed or infected. The patient usually remains in the hospital for a few days to allow for the healing of the short incision through which the tubes were located and tied. A minimum of risk is associated with this type of abdominal operation.

In the male the operation called vasectomy is performed quickly and easily. The tube, known as the *vas deferens*, carries the spermatozoa from the testicles upward, just under the skin of the scrotum —the sac containing the testicles. Needing only a local anesthetic, a half-inch incision is made over each testicle and the surgeon closes the tubes in ten minutes or less. The patient can return to his home immediately and resume light work within a day or two.

Since some of the patient's spermatozoa are already in the seminal vesicle reservoir, the complete protection from parenthood does not begin until about six weeks have elapsed. Inasmuch as the operation on the husband is simpler and does not involve the expense of hospitalization, some couples prefer it to the one on the wife, even though she may be the one most concerned with the protection that sterilization affords.

Tens of thousands of American couples have demonstrated that satisfactory married life continues for both men and women following sterilization. In almost every instance the removal of the haunting fear of an unwise pregnancy has vastly improved the relationship between the partners. Greater response is experienced when the wife is protected from the fear of having children she may not be able safely to bear or successfully to rear.

The need for sterilization may arise from any condition that makes undertaking a pregnancy permanently unsafe or unwise. It may be advised as a safeguard for a patient's physical or mental health. Often it is for obstetrical reasons. For in the process of becoming the most intelligent of the mammals the size of man's brain has increased so greatly that escape from his mother's body has become more and more difficult. As a result, any contraction or narrowing of the pelvis—the bony ring between the hips through which the baby passes—may make childbirth in the normal way dangerous or even impossible.

When exit alive is not possible, the doctor performs a Cesarean section, removing the child through an incision in the abdominal wall and in the wall of the uterus or womb. The name comes from the story that Julius Caesar was born in this way after the death of his mother. Since surgeons consider more than two or three of such operations hazardous for the mother, they often recommend tying off the tubes at the time of the final delivery.

For other mothers the same procedure is advised in the presence of incurable damage to the heart, lungs or kidneys which makes future pregnancies unduly dangerous.

Most frequent of all is the need to prevent chil-

dren from being born to parents whose reproductive cells carry well defined inheritable defects. In many cases the parents themselves are not defective; the defect may show up first in the birth of a defective child, but in certain types of defect this means a strong likelihood that other children born to the same couple will also be defective. In a hereditary form of blindness, for example, it would seem criminal to allow additional children to be born to lives of darkness.

Sterilization of feebleminded parents is perhaps the most important of all—prescribed for both the protection of the patient, who is unequal to the exacting task of parenthood, and for the child. Since the mind of a feebleminded person never develops beyond that of a child, there is no possibility of curing this condition. Such people, however, can often make satisfactory adjustments to their surroundings, earning a living by some simple form of work, and can even have a happy married life with the same kind of partner, provided the mental and economic strain of parenthood is avoided.

Even more important is the protection which sterilization affords to the children who might otherwise be born. For while feeblemindedness is not always or even usually inherited from a parent, the life of a child with mentally deficient parents cannot be satisfactory. It must either be subjected to guidance by a person of limited intelligence, or if the parent is institutionalized, the child will be brought up in a broken home. Since the feebleminded cannot recover from their affliction, a permanent form of pregnancy limitation is appropriate.

Mental illness differs from mental deficiency in that many cases can be cured. If, however, the mental disease is recurrent or permanent, it is important to protect children from being born into an undesirable environment where they will be brought up by a parent with a diseased mind. Such patients, even when institutionalized, are often allowed to go home for visits. If they have sufficient understanding and are married, they welcome protection from another undesirable pregnancy.

The operation for sterilization has been completely successful in all but an occasional instance in which the channel of one of the tubes that carry the germ cells becomes reestablished. Because failures sometimes occurred in the past, surgeons have become more exact in their methods, and such mishaps are extremely rare today. A recent report from ten different hospitals shows only four known failures out of nearly 5,000 operations.

Since sterilization represents permanent protection against parenthood, the operation is advised only in cases where protection is needed throughout the entire reproductive life. In extremely rare instances surgeons have been asked to reestablish the passageway for the egg or sperm so that pregnancy may take place. So far it has been possible to accomplish this in only about one out of five attempts in men and one out of ten operations on women. In the future the reversal of the operation in men patients may show a higher percentage of success.

Sterilization?

Meantime, if the reason for limiting childbirth is not a lifelong affliction, but one of a temporary nature for which a cure is possible, the physician will recommend a method of conception control other than sterilization.

There are numerous cases in which the attending obstetrician may say, "We hope to deliver this baby safely, but the mother should certainly not run the risk of having another." For such mothers sterilization at the time of delivery or within a few days thereafter is recommended. The mother's normal recovery time will be lengthened little if any by this procedure and sterilization immediately following childbirth assures against a future accidental pregnancy.

It is natural that tubectomy is not widely understood. The operation is less than fifty years old and many of its refinements have been accomplished in the last two decades. It was first discussed and first performed in connection with the Cesarean operation. An American physician in 1880 tied the tubes of a mother he was delivering because he felt it unwise for her to attempt another abnormal childbirth. In 1891 a Frenchman introduced the method of both tying and cutting the tubes. This method gained wider use on publication six years later of papers by a German and a Swiss physician who used the technic. In the succeeding years a number of minor variations in technic have been developed without essential change in the procedure. It was not until the 1930s that the (*Continued on page* 60)

Ethel Florey: Penicillin Pioneer

ENGLAND, in the grim winter of 1941-42. London was still under the blitz. The Nazis held all Europe. In Oxford, Dr. Howard Walter Florey said good night to his laboratory co-workers and walked home through the blackout, worn, tired, worried.

Work on penicillin, the experimental drug which he was convinced could save a million lives in World War II, was approaching an impasse. The laboratory phase was well advanced. Slowly, painstakingly, Florey and his associates had learned how to cultivate the mysterious mold in flasks of broth, and how to extract from gallons of this smelly brew the tiny pinch of yellow-brown powder that contained the drug, penicillin. In test tubes and laboratory animals they had used these precious pinches to demonstrate how penicillin annihilates the vicious 'cocci germs which cause scores of deadly infections.

Now the next step was large scale production. But one link in the experimental chain was missing. Penicillin was virtually untried on human beings. A year before, Dr. Charles Fletcher had made limited trials on a few patients. In each case the scant supply of the drug had been exhausted before conclusive results were obtained. Without clinical evidence of penicillin's value, the big pharmaceutical houses were unlikely to tackle the multimillion-dollar job of manufacturing it in useful quantities. Florey's supply was still scanty; but where there had been only pinches of the stuff a year ago, the laboratory now could produce the priceless powder by the thimbleful —enough to enable a meticulous medical worker to make some real trials. Who would undertake the job?

Florey himself could not spare the time from his laboratory. Somewhere, despite the wartime shortage of doctors, a competent clinical investigator had to be found. At home Dr. Florey laid the problem before his wife, Mary Ethel.

While she pondered, her husband remained silent. Then he made a suggestion that left her breathless. She herself should undertake the job!

Ethel Florey was qualified professionally. She had obtained her medical degree at the University of Adelaide in Australia two years after Howard Florey graduated at the same school and went to England as a Rhodes scholar. For several years she had practiced in Australian hospitals. Then she had come to England, married Howard Florey, and led a quiet domestic life bringing up their two children while her husband went on to become professor of pathology at Oxford's Sir William Dunn School. When war came the children—Paquita, 10, and Charles, 5—had been evacuated to the United States.

Confronted with the urgent penicillin problem, Ethel Florey was staggered. Her knowledge of medicine had grown rusty, she had no connections in any of England's teaching hospitals, and knew few of the outstanding doctors.

But at least she knew the penicillin story by heart. Back in 1928, Dr. Alexander Fleming discovered a strange mold growing on a culture plate in his London laboratory. Somehow this greenish mold had killed off all the bacteria immediately surrounding it. Fleming studied the phenomenon long enough to establish that something in the mold destroyed many kinds of bacteria, and also that it could be introduced into wounds without harming living tissue. He named the mysterious mold *penicillium notatum*. For the next ten years Fleming's discovery was ignored though in his London laboratory the mold remained under cultivation.

In 1938 Dr. Howard Florey, seeking new infection fighters, recalled Fleming's experiments. He sent for samples of the strange mold and began an entirely new series of studies. Finally, out of great quantities of the broth on which the velvety green mold was cultivated, the Oxford researchers succeeded in extracting a small amount of powder containing the new drug—penicillin.

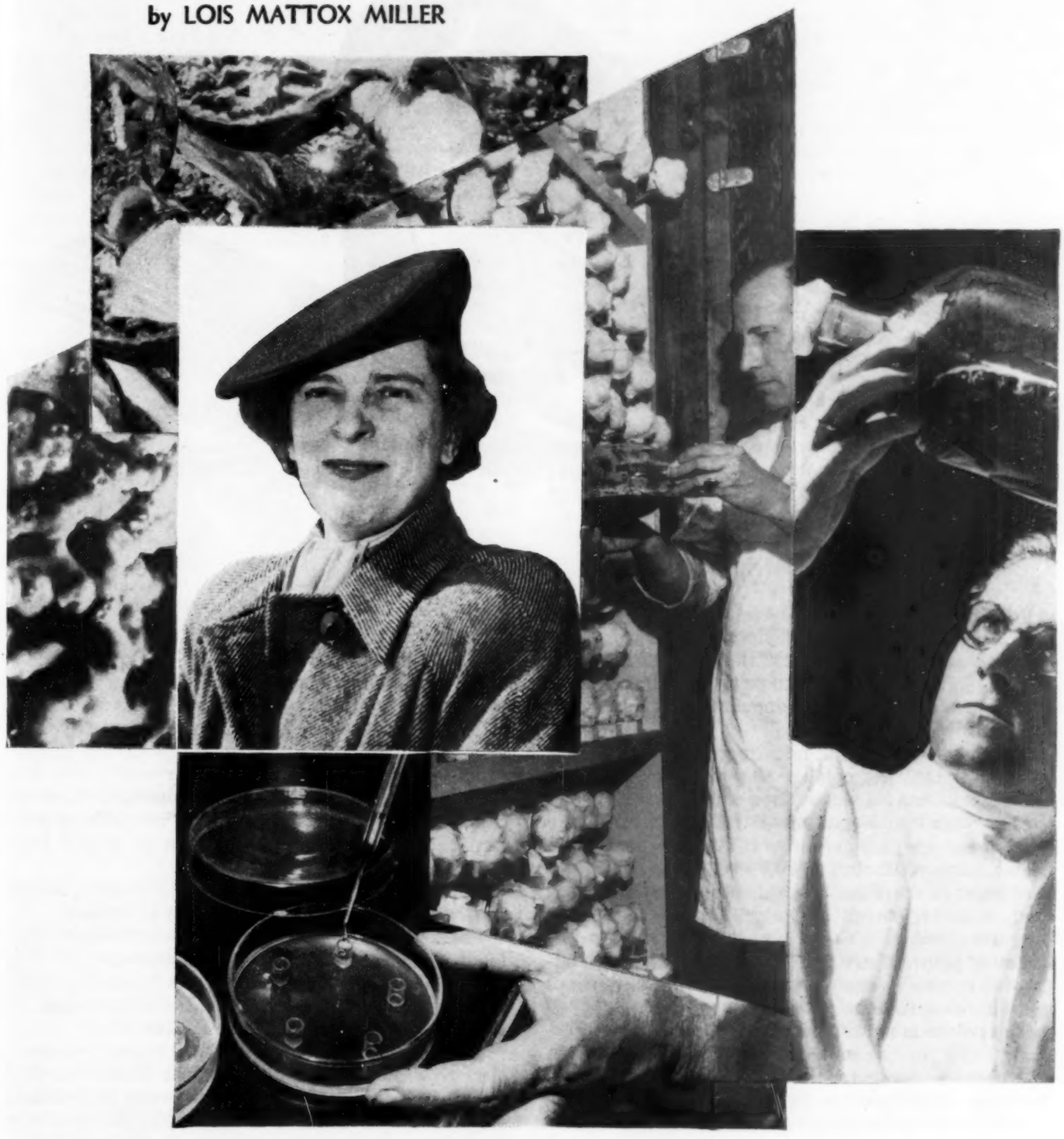
The amount of penicillin entrusted to Ethel Florey on that fateful day in 1942 would hardly be considered an adequate dose for a single patient in the penicillin-rich world of today. Yet she prepared the precious hoard in solution and ointment, which she placed in little bottles and sterilized cold cream jars. These containers she stowed in an old Victorian vanity case. With this highly unprofessional kit strapped to her bicycle, she set out to demonstrate penicillin to a world in desperate need.

Howard Florey had asked several Oxford hospitals to permit his wife to administer penicillin to suitable patients. A few doctors agreed readily. There were plenty of stubborn cases of infection in the wards. Maybe this new stuff could help the hopeless. Ethel Florey first selected cases involving surface infections in which the results could be closely observed—ulcers, abscesses, pus-filled wounds teaming with deadly staphylococci. Penicillin fought its way through pus, caused the vicious 'cocci to disappear, and enabled the ravaged flesh to heal cleanly.

At the Radcliffe Infirmary, children suffering from acute infections of the ear and mastoid were treated by injecting a penicillin solution into the abscessed cavities. Others with troublesome running sinuses were similarly treated. The results were encouraging, but only a beginning.

Ethel Florey knew that penicillin's biggest field was treating infections that were deep within the body but still accessible through the blood stream. Dr. Fletcher already had injected penicillin into the veins successfully, but (*Continued on page* 66)

by LOIS MATTOX MILLER



American doctors crowded into an Atlantic City convention hall last June for the first comprehensive full-dress review of the medical triumphs of penicillin, the "wonder drug" of wartime and postwar medicine. As the meeting began, a plainly dressed woman slipped quietly into the hall and took a seat at the rear. Whispered one observant doctor, nodding in her direction: "There is the real heroine of our story—Ethel Florey."

by BEATRICE WILSON

A MOUTH-WATERING picture of a "great big charcoal-baked potato" labeled, "That's no Spud. It is the potato with a pedigree," recently headed an advertisement of an important railroad.

This advertisement in a leading magazine proves that the potato has come a long way, for the original "spud" was no larger than a walnut.

Last year the Department of Agriculture purchased the surplus potatoes raised in the United States, approximately 100,000,000 bushels, and used most of them for free school lunches, livestock feed, exports, starch and alcohol. The remainder was destroyed.

Today growers are raising Irish potatoes by improved methods everywhere. Four hundred years ago there were few patches anywhere.

The potato is not an Irishman, but a South American. Early in the sixteenth century, the Spanish adventurers came to the Pacific coast of South America. They paused in their gold search long enough to investigate the food the Andean natives were digging from the ground and discovered the parents of our Irish potato.

Some of the adventurers took a crop back with them to Spain. Others, loaded with spoils, stopped in Florida. From there, the potato was carried to Virginia. Later the Virginia colonists sent by Sir Walter Raleigh in 1584 returned to Europe with potatoes.

It is said that Sir Francis Drake, the Englishman who sailed all the seas, took potatoes from Virginia to England. He gave several pecks to his friend, Sir Walter Raleigh, who planted them on his estate in County Cork, Ireland, thereby starting one of the Old World's most important crops. That is how the tuber became "Irish." Scientists call the Irish potato *Solanum tuberosum*.

No monument is erected to the man who first took potatoes to Europe although he gave a greater gift to the Old World than all the gold and silver the New World possessed.

The potato will mature farther north and at a higher altitude than any other important food except barley. It grows successfully on shifting sand that has to be thatched with straw to keep it from blowing away.

Potatoes made famous Aroostook County, Maine, where yields are reported in terms of barrels.

Shelley, Idaho, where about two thousand carloads of Idaho Russets are sent annually on their way to feed the hungry, celebrates Spud Day at the end of the harvest in October. Baked potatoes are given to people who pass through the town.

Potatoes made a knight out of a tenant farmer. George V of England knighted Sir Matthews Wallace for his work in the potato industry in Scotland. Potatoes make "kings"—for example, George Shima and Sing Kee, "potato kings" of our Pacific coast.

Food experts find the potato one of the best and cheapest of foods.

The modern physician says, "The Irish potato is good food. It agrees with practically everybody."

"It is one of the world's greatest food crops," says the farmer.

"Within its covering the potato contains starch which is more easily digested and assimilated by the body than the starches of wheat, corn and other cereals," says the nurse.

"Salts, chiefly potash, comprise 5 per cent of its dry substances. These do a most important service

in maintaining the alkaline condition of the blood, essential to good health and resistance to disease," says the dietitian.

"Baby prefers potatoes to any other solid food," says Mother.

"Who could give a dinner without serving potatoes in some form? There is nothing to take their place," says the hostess.

"No potatoes, less work," declare the working folk.

"Don't waste its valuable food elements," says the food economist, "by paring too deeply."

Long ago the Irish potato was not regarded highly as food.

In England it was greeted with little favor. It was too closely related to the nightshade and the tomato

THE UPS AND DOWNS OF THE IRISH POTATO

tc be worth considering. But Sir Walter Raleigh saw the food value of the potato and attempted to interest Queen Elizabeth. He talked of potatoes until she ordered a dish of the cooked tubers to be placed on the royal table. Courtesy compelled the guests to partake of the dish, but they didn't like the new-fangled foodstuff from the wilds of Virginia.

In order to keep the experiment from being repeated, they started a whispering campaign concerning the poisonous family to which the potato belongs. The superstition that potatoes cause leprosy and make women fat may have originated at this time.

When its value as food was recognized, the potato was rapidly adopted by Great Britain and many other countries. In 1747, seven hundred bushels were exported from the Carolinas to England.

The potato was the cause of the first great Irish emigration to the United States in 1845. The crop had been killed by blight, causing a famine in Ireland.

The Irish potato owes a debt to a Frenchman, Antoine Parmentier, who popularized it. Parmentier knew that curiosity might be used to convince people that the potato was a ready storehouse of excellent food. Instead of arguing with people until he was red in the face, he obtained the consent of King Louis XVI to plant potatoes on a large piece of land near Paris. He surrounded the field with mystery by having the plot guarded by troops and augmented the guard as the crop grew.

"Why the soldiers?" asked the people, and the large potato patch became the talk of a nation.

Louis XVI wore potato flowers in his buttonhole; his Queen decorated her hair with them. Ladies sent to Parmentier to borrow or beg the flowers which were "all the rage" now in Paris.

Parmentier wrote books and pamphlets in which he urged people everywhere to cultivate the potato in order to prevent hunger.

At harvest time he invited a number of scientific and influential men from all over the kingdom to a banquet where every dish was made of potatoes. It proved a good demonstration of the new vegetable. People talked of Parmentier's feast and wished they might have been there.

The King said France thanked Parmentier, because he had found bread for the poor. France has not forgotten this unusual benefactor. Travelers say that every year Irish potatoes are planted on Parmentier's grave.

Interest in potato growing soared; by 1813 France had over 120 different varieties.

Frederick the Great of Prussia introduced the cultivation of potatoes to the masses in Germany by having his soldiers force the farmers to plant them. Before that time they were grown only in the gardens of the rich.

In our own country, the potato was slow in gaining popularity.

New England masters of employment promised their apprentices they would not be obliged to eat potatoes while learning their trade.

Potatoes were believed to shorten men's lives. Only after the well-to-do ate them would the masses have anything to do with them.

At the time of the American Revolution, lucky was the family with a barrel of potatoes stored in the cellar. Potatoes were regarded as a luxury and were served only at Sunday dinner for special guests.

When ordering seed potatoes, we do not get a potato seed. For ordinary planting we use seed potatoes, or the tubers themselves. Potatoes are underground stems in which nutrients for the growing plants are stored. For planting they are cut into pieces, with care that each piece contains an "eye." The "eyes" are the buds on the stem.

There are potato seeds, however—tiny seeds growing on top of some potato plants in seed balls or "apples." They are planted by seed men in the search for new varieties. (*Continued on page* 51)

GALLSTONES

GALLSTONES are annoying little concretions that may cause attacks of excruciating pain in the right side of the upper part of the abdomen. Not all gallstones, however, cause colicky pain.

Sometimes they cause a dull type of distress in the middle of the upper part of the abdomen associated with excessive belching, fullness after meals and intolerance for certain foods. This is designated as gallbladder dyspepsia and is apt to occur in persons who are spoken of as the "fair, fat, forty and flatulent type."

Sometimes gallstones are quite "silent" and cause little or no distress. In this case their presence may be discovered accidentally during a routine x-ray examination or by other methods.

Sometimes gallstones are removed by a surgical operation and the person is greatly relieved of his distress. Sometimes they are treated by medical methods for long periods with reasonable comfort to the patient. In the vast majority of cases the removal of the gallbladder with its stones usually causes considerable improvement in the patient and he is thereafter free of colic; occasionally, however, the distress or the stones or both return, and this raises the question as to what causes the stones to form in the first place.

To understand the problem of gallstones, it is necessary to start with the beginning, that is, the process by which they are formed in the body. Then comes the program of treating them both medically and surgically and the results to be expected of each of these and finally the question that is so often asked—whether gallstones can be expelled from the body without surgical operation.

Formation of Gallstones

The formation of gallstones in the body is unfortunately not a simple process. It would be convenient if it were, for then the control of them would be correspondingly simple.

Three factors are involved in the formation of gallstones. These are: infection, changes in the composition of the bile and stasis or stagnation of the bile (which is produced in the liver and stored in the gallbladder). The process is this:

Infection provides a nucleus consisting of bacteria, alive or dead, or body cells sloughed off from the walls of the gallbladder or bile ducts.

About these are precipitated cholesterol, calcium salts or bile pigments whenever the chemical balance that holds them in solution is upset.

An increase in the secretion of cholesterol into the bile is favored by conditions including pregnancy, obesity, starvation, high fat diets, hemolytic jaundice. In these conditions, the blood cholesterol is high, and the bile cholesterol tends to rise parallel to the blood cholesterol. A decrease in the bile salt content of the bile favors the formation of stones.

This condition is favored by inflammation of the gallbladder or its ducts and by biliary stasis, which favors the removal of water while delaying the removal of bile salts, thus upsetting the concentration and chemical balance of the bile.

Biliary stasis occurs in pregnancy, heart disease, overweight, inflammation of the gallbladder, debilitated states and sedentary habits. Under these conditions, gallstones are apt to form.

Animals Also Have Gallstones

Most people are greatly surprised when informed that animals have gallstones. No foolin', they really have, and some of them are as big as or even bigger than those found in man. Some years ago, workers at the University of Colorado and the Bureau of Animal Industry of the U.S. Department of Agriculture made a survey of several thousand cattle coming to the Denver packing houses. They found that 1 per cent of the animals had gallstones.

Most of the stones occurred in adult cows that had borne calves. One lone bull had the honor of maintaining the position of his sex, while steers (emasculated bulls) make up the remainder. There were no instances of gallstones among heifers (adolescent females), and this suggested that they had not reached the age for gallstones. The age of the cattle with gallstones varied from 2 to 10 years with an average age of 7 which represents middle life for cattle.

The purpose of making such a survey is to remove the study of gallstones from the narrow confines of human behavior with all its artificially imposed restrictions and habits, and place the investigation on a broad biologic basis thus removing the problem from all the vagaries of man with his bizarre habits, customs and restrictions.

Gallstones also occur spontaneously in hogs, and dogs, and they have been produced experimentally in rabbits.

In human beings they occur universally among all peoples and all races. They have been known since antiquity. Fifteen hundred years ago, Alexander of Thralles gave an excellent description of them.

A survey of numerous observations seems to indicate that from 5 to 10 per cent of people have gallstones, that they occur twice as frequently in women as in men, that pregnancy is an important predisposing factor, likewise that more people who eat a high fat diet have gallstones than those who eat a more vegetarian diet; that gallstones are of lesser frequency among certain tribes in Russia, Japan and India where the diet is more frugal, more

vegetarian and poorer in fat; that Negroes have fewer gallstones than their white neighbors perhaps for the same reason. As to age, gallstones have been found in people from infancy to old age, although the great incidence occurs in middle and late life.

No one has yet come out with a clear-cut statement that the tendency to gallstones is inherited, yet it is a common observation that gallstones tend to occur in some families more than in others. Many physicians have observed families that have a high incidence of gallstones. In one type of gallstones, the inheritance factor has been clearly established, namely in the stones that occur in about half the people who have hemolytic jaundice, which is now generally accepted as an inherited disease.

Behavior of Gallstones

Gallstones are variable in appearance and occurrence. They will range in number from one single large stone the size of a small egg to hundreds of small sandlike pellets; in color they are brown, yellow, black, green or a mixture of these; in shape they are round, oval, polygonal; their surface is rough, smooth, granular, shiny or dull.

In behavior they are equally variable. Generally their behavior falls into three patterns. (1) They are "silent" and produce no distress; (2) they produce a dull type of upper abdominal distress called biliary dyspepsia; (3) they produce a violent type of excruciating pain called biliary colic.

As to the silent type, little need be said about them since they are of no importance.

The second class gives rise to biliary dyspepsia. Here the person experiences a dull type of distress associated with fullness after meals in the middle of the upper part of the abdomen, also belching and bloating; coated tongue, offensive breath, sometimes nausea and vomiting; sometimes pain under the lower ribs on the right side and radiating to the back; intolerance for certain foods, as fried foods, greasy foods, highly fat foods, onions, vinegar, spices, peppers, alcohol, strong tea and coffee, radishes, cucumbers, chocolate, cabbages, brussels sprouts, raw apples, canteloupe and some others.

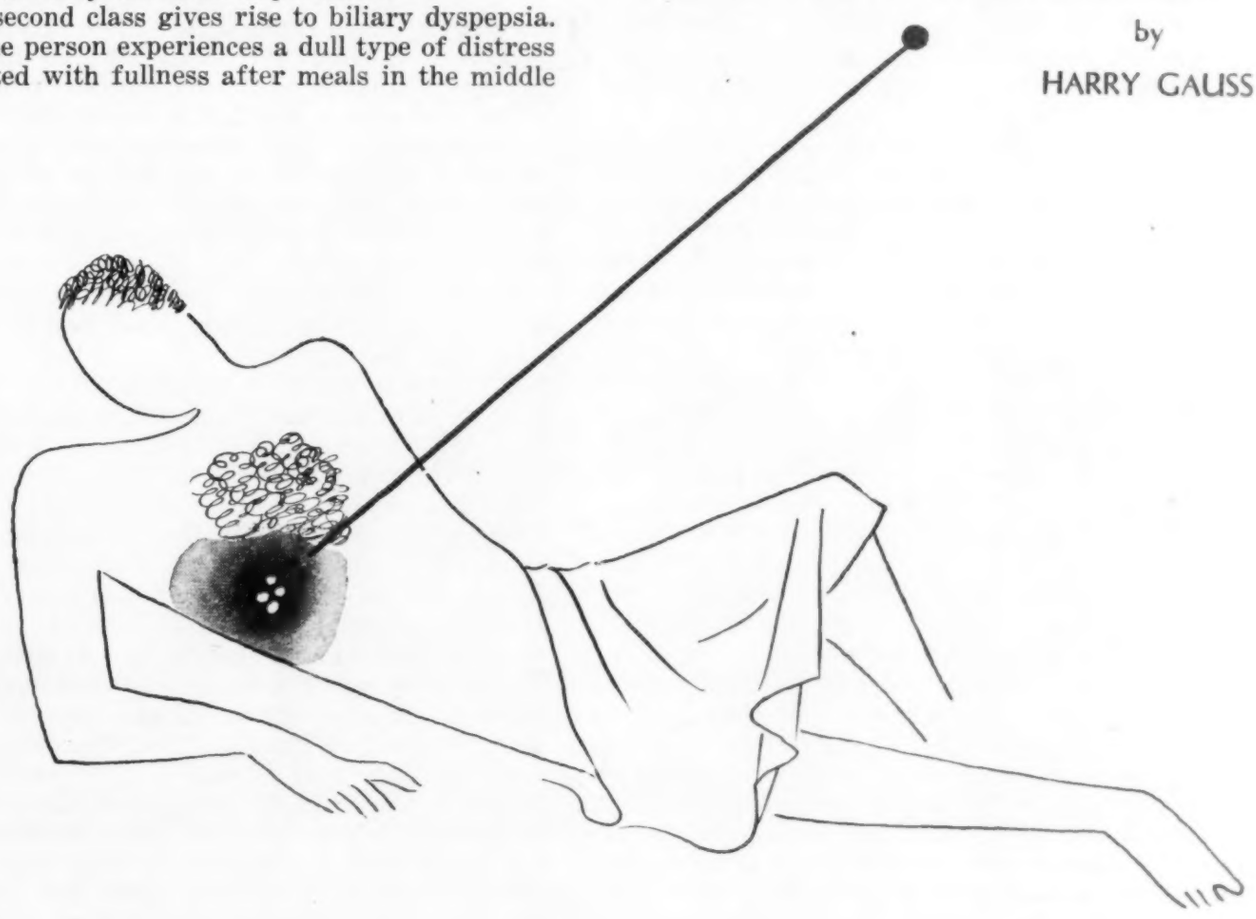
The distress usually occurs after meals and conversely the person usually feels better when the stomach is empty; sometimes he gets relief from soda. Constipation is common and the stools may be clay-colored.

The third type of distress is the biliary colic. Here the person is seized by an attack of excruciating pain, knifelike in character, usually along the lower border of the right ribs. The pain usually radiates to the right shoulder blade, however it may radiate to the pit of the stomach or elsewhere. The duration of such an attack is variable. It may last from seconds to hours.

With an attack, one is severely prostrated, usually takes to bed, doubles up in (*Continued on page* 62)

Not all gallstones cause distress, but when they do, the best treatment is removal of the gallbladder with its stones.

by
HARRY GAUSS



Simplifying

SIMPLIFY motherhood? It just can't be done, lots of folks say: it has always been a tough job, and it's no use trying to make it any easier. But modern science has stepped in, here as in so many other places; and today motherhood *has* been simplified, for those sensible women who are willing to cooperate with their doctors in finding an easier and a better way of performing certain age-old duties. How is this accomplished?

The first step is for every intending mother and father to realize that the most important, scientific and satisfying part of the family doctor's job consists in keeping folks from getting sick, not trying to cure them after they have become sick. As soon as they realize that there is going to be a threesome instead of a twosome, they will go to the family doctor or proceed to select one if they have not done so before.

From this time on, he is the big shot. He will suggest visits at regular intervals, and will lay down simple rules that will pave the way for a motherhood that is safe and so is eminently simplified from the start. In no other way will our unnecessarily high toll of maternal and infant deaths ever be reduced. With this early safeguarding, the remaining dangers of maternity can be brought down almost to the vanishing point.

The up-to-date doctor makes a serious study of this important phase of medicine. Enormous advances have been made in recent years; and it is no longer excusable for him to be caught napping by an obstetric complication that could have been foreseen and guarded against by routine prenatal care. But he is helpless to do any foreseeing or guarding if he never sees his patient until it is time for the baby to arrive; that part is still up to the patient and her husband.

But after the baby has safely arrived, how is he to be fed? Surely that can't be simplified, can it? Yes, indeed; there is one absolutely safe simplification of infant feeding that is in addition inexpensive and sure. It consists in giving him the food that is his birthright—namely, his mother's milk. Breast feeding is the one best answer to the time-honored query, "How is the baby to be fed?"

Of course it has always been generally known that the breast-fed baby has a far better chance for both life and health than his less fortunate bottle-fed cousin. The immortal Dr. Holt emphasized this forty years ago, and insisted upon it and stressed it until the day of his death. What is not nearly so well known is that *practically every mother can nurse her baby,* provided she and her doctor are determined to procure this lifesaving measure for the little life entrusted to their cure.

In other words, it is hopelessly out of date to wonder whether or not a young mother is going to be able to nurse her baby. Anyone who doubts this need only write to her own state department of health for literature explaining how this can be brought about. A campaign to "universalize breast feeding" has been put on as a civic measure in communities in various parts of the country. And wherever it has been tried, it has met with overwhelming success. In no other way can motherhood be so surely simplified.

A third step in the simplification of motherhood is rather sweeping in its application; for it covers many of the questions that come up for settlement by the young mother in the management of her baby. It is "Apply the Golden Rule in everything you do for a child." But just what does this mean?

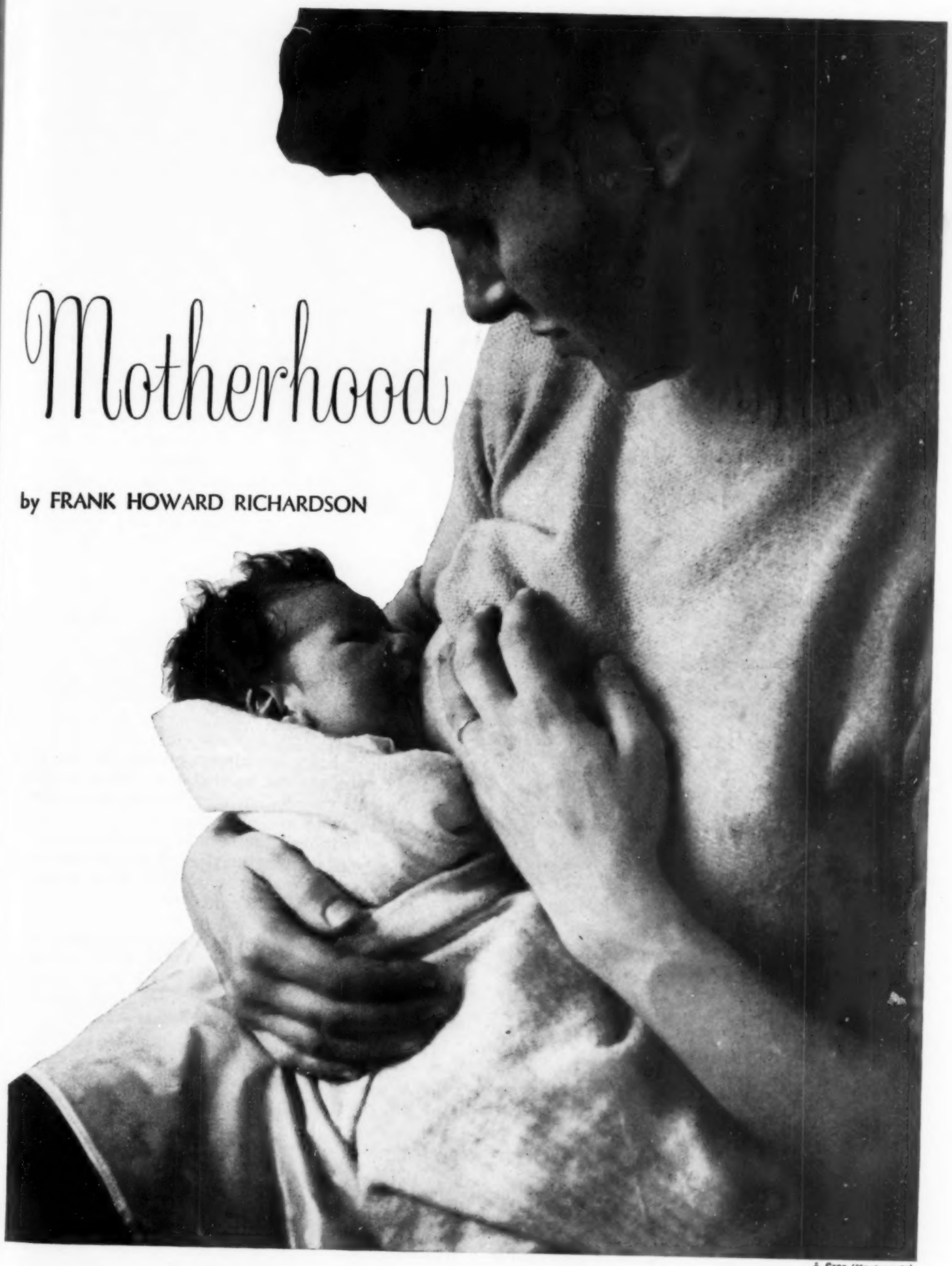
It means that we ought constantly to remind ourselves that a baby is a human being; that he feels heat and overdressing, as well as cold, every bit as keenly as his parents do; and that he cannot stand discomforts that his parents would rebel against any better than they can. It means that if we treat him as some officious and ill-formed advisers are constantly insisting that we should, we may cause him serious trouble, possibly injury and illness, possibly even death.

If we remember this, we shall not condemn him to wear an uncomfortable, irritating strip of flannel trussed tight about his little tummy, or up around his chest, or down around his hips, or wherever it may have slipped, just because Grandma has never heard of dispensing with that ancient and useless institution, the belly-band. We shall not smother him in woolen garments in hot weather, in spite of the time-honored notion that he should have wool next his skin. For we shall remember that even we fairly tough adults refuse to subject ourselves to any such punishment, but choose instead the thinnest and least irritating of materials for summer wear next our own skin.

And we shall not swab out every opening in his delicate little body with that outmoded routine cotton tipped tooth pick that was once the bane of every well brought-up baby—any more than we should care, or dare either, for that matter, to have our own ears or eyes or nostrils or mouths scrubbed out with such dangerous tools (*Continued on page* 56)

Motherhood

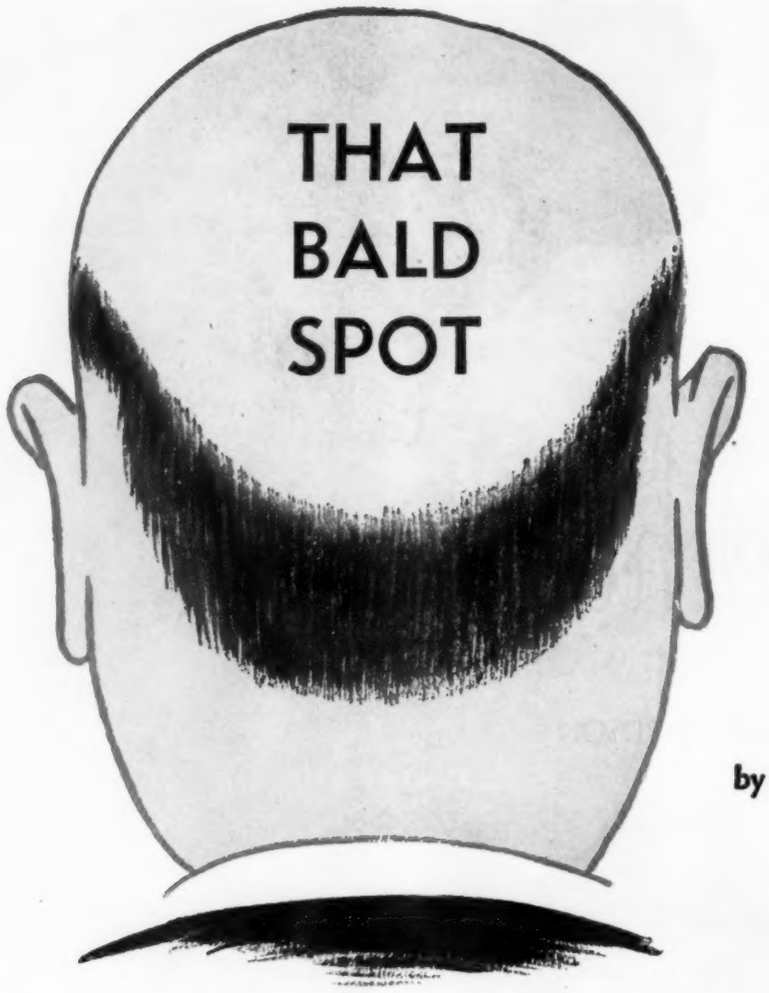
by FRANK HOWARD RICHARDSON



J. Cron (Monkmeyer)

It is "hopelessly out of date" to wonder if a young mother will be able to nurse her baby, for practically every one can do so.

THAT BALD SPOT



by ROBERT P. LITTLE

SOME people are born bald, some acquire baldness and a few have baldness thrust upon them. There are children who come into the world with no hair on their heads at all. This is a rare defect. Pseudobaldness is more common. In such cases the child, though apparently bald, actually has a fine downy growth which is later replaced by normal hair.

Alopecia is the medical word for baldness. It comes from the Greek word meaning fox. Foxes frequently have bare patches on their coats.

It is astonishing how many causes for baldness there actually are! Sometimes the hairs, for some strange reasons, become brittle and just break off. In other cases the hair is perfectly normal but it is lost because of some nervous habit. Little Sally pressed her head into her pillow and rubbed it from side to side until, from constant friction, the back of her head became quite bald.

Miss A would pensively grasp a lock then suddenly jerk it out to satisfy some inner urge.

Mr. A, who had a similar compulsion, erased his hair by constantly rubbing with his hand.

The hairs are very interesting structures. They grow from a papilla about a quarter of an inch below the surface of the skin. Though the roots are alive, all the hair above the surface, seven-eighths of it below, is insensitive and dead.

A hair when cut in two is seen to be somewhat oval. Straight hairs are almost circular in outline but curly hairs are flattened. Little glands supply oil to lubricate your hair while tiny muscles make it stand on end when you are afraid.

Some people inherit baldness. It runs in their family and there is a premature loss of hair at the age of 20 or 25. Fortunately more men than women suffer hereditary loss of hair.

Grandpa Smith is normal in every way. He had a fine head of hair throughout his prime but now, at 85, his hair is thin and gray. This is not a disease, but is merely the natural atrophy of old age.

There Are Epidemics of Baldness

There are a number of systemic diseases which may be followed by loss of hair. They include typhoid and scarlet fever, smallpox, syphilis, thyroid disease, anemias and chronic intoxications. In some way either the roots of the hair or the nerves which control its growth become poisoned and the hair falls. Hair may be lost in patches, because of toxins, around boils, eczema and impetigo.

A number of years ago, when a girl with a bald patch was admitted, an epidemic of *alopecia* suddenly struck a young ladies' school. Sixty-three out of sixty-nine girls became totally or partially bald. The hair would suddenly fall leaving smooth, rounded patches completely devoid of hair. The skin on these areas was somewhat lower than the sur-

rounding skin because of atrophy of the roots. At the margins of the patches there were short hairs which clicked like an elevator starter when they were pulled out. These hairs were seen to be atrophied in the portion below the skin so they oddly resembled exclamation marks. In some cases the scalp was greasy. In others, it was apparently normal.

In some of these girls all the hair was lost and the scalp was as bald as an ostrich egg, (except for a few tufts). Most of the girls, however, lost their hair in rounded patches. Fortunately after an interval of some months the hair began to return. It was often whitish and downy at first. In some cases this regrowth *again* fell out. Most of the girls in the end, however, had a normal growth of hair.

The medical men diagnosed the trouble as *alopecia areata,* a type of baldness which generally appears in sharply defined patches. Its cause is entirely unknown. Strange to say when the girl who started the epidemic was readmitted some six years later another outbreak occurred. In this case forty-five out of forty-nine girls lost their hair.

Many similar epidemics have been reported. Some think that *alopecia areata* is caused by fungi or bacteria, though the actual proof of this is lacking. Others think it is due to nervous shock. The outlook is good in people under forty. Most of them get well spontaneously but treatment may hasten the recovery.

Baldness may be patchy, diffuse or universal. By far the commonest variety is the diffuse, seborrheic type—that is, characterized by an overactivity of the oil glands—which occurs generally in men.

Mr. Z, during his teens, suffered badly from acne and now, at 23, his greasy hair comes out in handfuls. The hair has already receded from his temples and over the top of his head it is fast becoming thin. It is plain to see that Mr. Z will, no doubt, soon be bald. It should be added that Mr. Z may lose his hair even in spite of treatment.

Heredity, Germs or Hormones?

Dr. Darier, a great French dermatologist, or skin specialist, believed that there was a hereditary predisposition to overactivity of the sebaceous glands. Such patients have a muddy skin, large follicles, and a lowered resistance to bacterial infection. In youth they suffer from acne while in maturity they have seborrheic dermatitis or inflammation of the skin and lose their hair.

The role played by germs is still very controversial but it is generally thought that they aggravate if they do not cause the seborrhea and fall of hair. In 1928, Drs. McCleod and Dowling reported that seborrheic dermatitis followed injections of an organism called pityrosporon of Malassez into the skin. The question whether this or other germs actually caused seborrhea, however, is still unsettled.

There is also an endocrine factor in baldness. The hairline in women follows the forehead, while in men, after puberty, the hair tends to recede at the temples. Eunuchs do not become bald and their hairline is of the feminine type. Occasionally women, of a mannish type, suffer from the male type of baldness.

Some doctors go so far as to say that masculine baldness is actually due to the sex hormone, but to argue thus is to ignore other factors without which the loss of hair would not occur. For example, there seems to be a definite hereditary tendency to seborrhea. Furthermore, appropriate treatment will in many check if not prevent the loss of hair.

Seborrheic disease of the scalp may begin with dandruff. The scalp around the hair follicles, becomes covered with whitish, often greasy scales. The hairs now become brittle and fall, first over the temples, then over the top. Finally the whole crown becomes bald or perhaps a tuft remains in the middle. However, if a patient is not entirely bald at 35 he is not likely to become so. Baldness on the temples, due to seborrhea, is rare in women unless the glands are at fault.

Preventing the Loss of Hair

When the dandruff is dry and profuse it may be confused with the scales of a skin disease called psoriasis. Some dermatologists think the process is the same and that seborrhea is only a greasy psoriasis. Psoriasis, however, is a rare cause of baldness.

A good deal can be done to prevent the loss of hair. First a complete physical examination should be made and any general trouble should be corrected. The scalp itself should then receive special attention. All combs and brushes should be kept clean. The hair should be frequently washed to remove dirt, dandruff and grease. Cleanliness alone may cure mild cases. For the shampoo you can use tincture of green soap and soft or softened water. The new soapless cleansers have great advantages over conventional soap because they do not precipitate in hard water and they leave no greasy scum to be removed from the hair by a vinegar rinse. The hair may be dried with warm towels or an electric drier. Plenty of brushing with a clean brush gets rid of dandruff and you may massage the scalp with the fingers. All this will cause many loosened hairs to fall out, but they would have fallen anyway.

Medically there is no specific for seborrheic baldness. Your doctor will probably prescribe some form of sulphur and salicylic acid to rub into the scalp. These drugs are generally put in one of the newer ointment bases which wash easily from the hair.

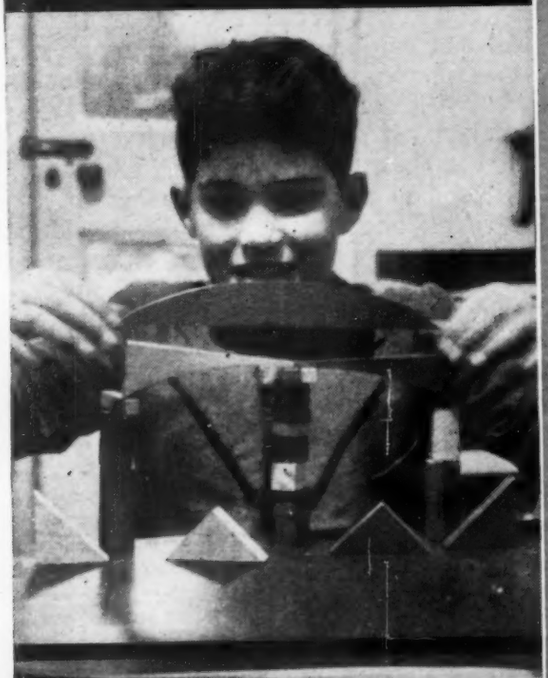
In all cases it is wise to consult a reliable dermatologist and not attempt home treatment.

Those who have baldness thrust upon them may acquire it because of scars due to burns or wounds. A woman's whole scalp may be torn away when her hair is caught in machinery. Ulcers and boils may leave hairless scars. Sometimes the individual hair follicles may be destroyed by bacteria or fungi. A drug called thallium acetate will cause temporary baldness when taken internally by poisoning the nerves to the hair. Thallium acetate has been used to treat ringworm of the scalp but is not now generally recommended. Overdoses of x-rays can destroy the hair roots and cause irreparable damage to the skin. A chronic skin disease called *lupus erythematosus* sometimes scars the scalp with resulting loss of hair.

It is evident that baldness has many causes and its diagnosis and treatment are far from simple.

At left, the girl is making a mosaic as part of the testing program given all entrants to the Children's Center in London, which tries to analyze and solve the problems of children. The mosaic test, designed by the director, Margaret Lowenfeld, is now used in this country.

The toy shop at the Center makes "playing house" more interesting for the little shopper at right. But the psychologist uses it to investigate and build up her relation to everyday reality.



The boy at left seems to enjoy another of the Lowenfeld tests. These "kaleidoblocs" test imaginative power, practical reasoning and construction ability.

An unobtrusive but observant therapist watches while Judith, at right, puts her dolly to bed. The little girl is afraid. She will not venture into the tiny house.

Now (at left) Judith has overcome her timidity far enough to enter the little house—and to enter into a lively altercation with the therapist.

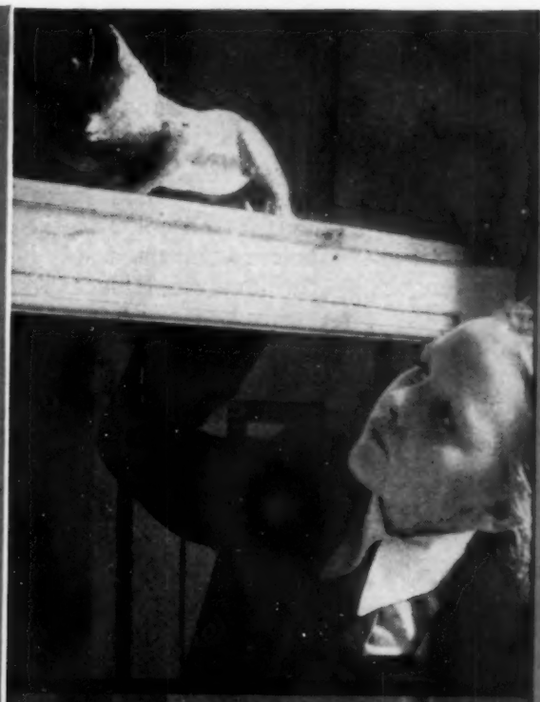
The two girls at right probably will not practice their mural art in the wrong places; the Center provides an easily laundered "mess" room where they can get this natural urge out of their systems.

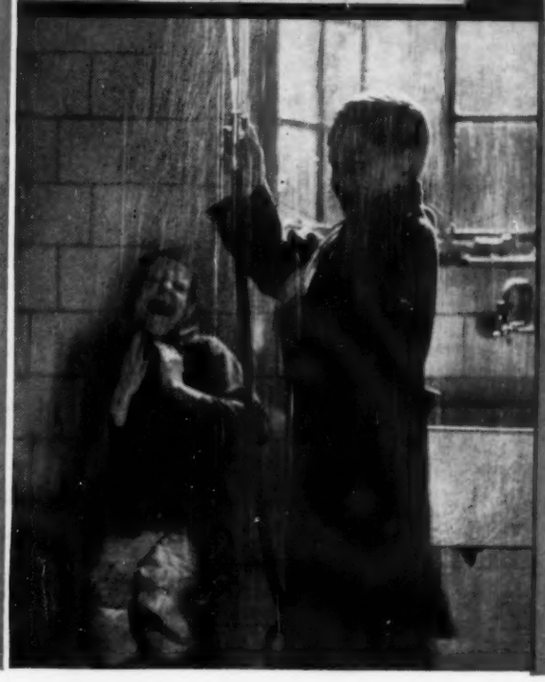
Keystone Pictures, Inc.

Julie has had to grow up too fast. She's dying to play with the toy fox like the little girl that she is, but she just can't "let go."

Mary's toy "world" is one where the fence is dominant and the street is empty. She has fenced the "people" from the avenue and, symbolically, fenced herself out, too.

But these boys, provided with hose, boots, oilskins and a "water room" to use them in, can really "let themselves go" —and, for its effect, just look at their faces.





GROW UP AND BE HAPPY

WHY DO children become frightened, delinquent or chronically ill?

In London, England, an institute for children has an original answer to these questions. This is the Children's Center, the Institute of Child Psychology. The idea upon which its work is based is that children become ill, unmanageable, delinquent and nervous not so much because of emotional conflicts connected with their relation to school and home, though these most certainly contribute to the picture, but primarily because they are in confusion about the nature of themselves and society and because home and school have failed to find their innate abilities, and a suitable practical expression for them. The work of the staff, therefore, is to study each individual child, his ideas about himself and his surroundings, his innate possibilities and gifts, and to help him realize these and express them.

Another interesting idea embodied in the work of the institute is that similar processes underlie many apparently different complaints in children, and that these can be sorted out only by experts. Parents, teachers and social agencies are therefore encouraged to bring to the Center children suffering from any kind of trouble, whether physical, educational, emotional or social. If, after study of the child, the staff decides that another form of treatment is more suitable, arrangements are made for transfer to a different hospital.

In order that work of this kind be carried out successfully, not only is a specially trained technical staff necessary, but the building in which the work

(Continued on page 67)

by LOUISE PRICE BELL

THE appetites of convalescent children are likely to seem finicky as a result of their preceding illness. These languid youngsters often appear totally indifferent to the foods they normally like. Mothers become worried, and subsequently—in their efforts to supply their patients with nutritious food—they go to great and dramatic lengths to induce them to eat. They coax . . . implore . . . threaten . . . bribe . . . and in response the average child takes advantage of this parental anxiety and uses it as a means to satisfy his every whim.

Convalescent children need wholesome, nourishing food. But a lack of appetite should not fill mothers with apprehension nor should it be treated with high-pressure tactics. Instead, mealtime should be a perfectly normal procedure and the most pleasant time of the entire day.

A busy mother, especially one with no help, does not have time to dress up trays in an elaborate manner . . . but they can be made to look attractive with no expense and with very little labor. Every mother knows that well cooked food, served daintily, is more appealing to a healthy child or adult than is carelessly prepared and served food. And that heaped plates are never an appetite stimulus—even to hungry, play-weary youngsters, to say nothing of those who aren't even hungry!

The tray itself may be of any type so long as the child does not have to balance it upon his knees. If painted it needs no covering unless a bright doily or napkin adds gaiety and intrigue to its appearance—as it often does on a white or ivory tray.

Besides the conventional china and glassware, every home has some odd pieces which will add charm and color to the simplest tray. The colorful pottery popular today is effective and cheery, as are the lovely old pieces of blue willow ware which so many households have as a remnant of Grandmother's day. Grill plates are always satisfactory for a sick tray and the tiny compartments offer opportunities for a touch of some intriguing bit of food to augment the larger portions of substantial vegetables, fish and meat. Thus a stuffed date or prune . . . a ripe olive . . . a dab of cherry-red jelly . . . often plays an important part in the cheeriness of a tray.

Be sure that all of the silver used on the tray is kept shining and bright, that the napkin is fresh and snowy white, that there is no spilled liquid or daubs of melted butter on the plate edges. With cleanliness and attractiveness always in mind, the mother who has countless trays to prepare for tiny child's appetite is making each tray more or less of a surprise.

The surprise needs be nothing more than serving Betty's cream soup in the gaily flowered bowl that "Uncle Bob brought from England" . . . or

tucking a few fresh violets from the garden in the doll's tea-party sugar bowl and setting the wee nosegay at the back of the tray. But even small things like these will often cause dull young eyes to brighten and have a psychologic effect on languid childish appetites.

Simple foods can be served in different ways—as "teasers." Orange juice will taste much better if served in a glass with an interesting figure or design on the side, even though the design is only a gummed-paper one. Milk—in a different glass every day—will somehow seem to hold the child's interest and (if he is a reluctant milk drinker) the old idea of pasting a picture on the bottom of the glass is always a strong inducement, for children are naturally curious.

This isn't any trouble; simply keep a bottle of glue and a few pleasing and humorous "cut-outs" in the corner of the kitchen cupboard. A smear of glue and picture is on, and it soaks off in the dishwater after the meal! In our family—where there have been many long convalescent periods—I have often given the small patient messages in that way. And any child will drink his milk with eagerness to find a notice at the bottom which tells him, "Grandma is coming to see you after your nap," or "Daddy is bringing a surprise home with him tonight."

Tiny individual sugar and creamers will help a child to want to eat his cereal; he will feel very grown up as he adds these to his bowl of steaming oatmeal or crunchy flakes. Toast will disappear like magic if it appears in the form of a bunny or bear, and it takes but a minute to cut these animals from paper-thin, golden-brown toast with an animal cookie cutter. Even narrow strips of buttered toast hold more appeal than does the conventional square.

Fruits and vegetables may be made up into all sorts of delightful plate combinations with color contrasts that are startlingly dramatic and tempting. Potatoes—stuffed with surprise fillings of creamed meat, fish or vegetables—always fascinate children, while muffins that hide some choice tidbit in the center never fail to call forth exclamations of delight.

Steamed rice—molded in a five-cent ring mold of small size and then filled with colorful peas and carrots—is delicious as well as picturesque with a bright green parsley spray as a garnish. Mashed potatoes squeezed through a pastry tube look much more tempting than a plain mound, although even a mound is appealing if snow-white, lumpless and flaunting a golden well of butter, a dash of paprika and a finely sprinkled dash of chives or parsley.

Color always makes food appealing. Thus, the wise mother adds a bit of pure coloring to plain baked custard or spanish cream . . . freezes a bit of orange or red cherry in a tray of ice cubes which are to be used for the young invalid's afternoon drink. Fruit juices may be added to eggnogs, not only to add color but to disguise them if the taste is not always welcomed. And chocolate drinks always hold more appeal with a plump dab of whipped cream floating about. Hot cocoa with a soft marshmallow has the same effect.

There are so many simple and delightful food combinations that are appealing to children that it seems almost useless to name them, for most mothers are familiar with them—"shortcakes" of graham crackers and crushed fruit . . . custards poured over fresh fruit or ice cream . . . colored gelatins cut in cubes, mixed lightly together and topped with a crown of snowy whipped cream . . . prunes, dates and other dried fruits stuffed with mashed bananas to which a dash of lemon juice has been added . . . cup cakes decorated with the little patient's name.

Holidays are perfect excuses for the convalescent's trays to be very gay. Many foods adapt themselves to these occasions in color and what child would spurn food on his tray if it adhered to the colors and ideas of Washington's Birthday . . . St. Patrick's Day . . . Hallowe'en . . . Valentine Day . . . Christmas! On those days paper napkins that carry out the idea may be used as doilies, the food may carry out the color scheme and a tiny bag made from a square of cellophane may nestle in the corner of the tray . . . on examination proving to be filled with animal crackers—or for older children nuts or mints.

Preparing and serving meals and setting up trays for little sickabeds or for middle-sized adolescents should not call forth sighs from any mother. For she will find that if she tackles the job with a lively interest and keeps her eyes open for little touches that will add a surprise note, she will astound even herself with the interesting and appetite-teasing trays she can create. And better still, she will be more than repaid for her efforts by the child's response—not only in appreciative remarks but in the progress he will make in convalescence because of happy mealtimes when all the food that is offered him is eaten.

Trays for Small Convalescents

CONTACT

Part I

by CHARLES SHEARD

MANY of us who have reached our fifties or sixties can remember our grandmothers and how they looked and how they lived and what they wore in "the gay 'nineties." Yes, Grandma was quite prim and precise. As she sat in her hours of ease and comfort, with her knitted shawl over her shoulders, generally beside the window lighted by the sun, she worked and perhaps she read through dainty, small, oval (and often six-sided) lenses made of quartz (or "pebble," as they were often marked) and set in a frame of sterling or, if she was more fortunate than most folks, in a frame of gold.

These lenses, now laid away with reverence and respect in the antique collections of great optical companies or of some of us who have been interested these many years in optics and vision, served Grandma well and enabled her to make good use of the years that hygiene and a good constitution had added to her life. But in a way, Grandmother's glasses were not so far different, except in excellence of material and workmanship, from those used in the fourteenth century. Convex lenses (for farsightedness or hyperopia) and spectacle frames came into use then; in the sixteenth century concave lenses (for nearsightedness or myopia) were first employed. Improvement in spectacle lenses was very slow; astigmatism (due chiefly to unequal curvatures of the cornea in different meridians) was discovered by Thomas Young less than 150 years ago. It is about a century and a quarter since the English optician, Fuller, made lenses that would correct the myopia and astigmatism of the eyes of the great English astronomer Airy.

Grandmother's Bifocals

Some of our grandmothers had bifocals, so that they could look out of the window through the upper portions of the glasses and, in turn, through the lower portions, which consisted of wafers of glass cemented to the original lenses, if they desired to read or work within the range of the lengths of their arms. But if Grandma had such a pair of double vision lenses she must have acquired them after 1888 or 1889, for those years are the dates of the Morck patents on cement bifocals and "perfection" bifocals. During these years many men in optics were at work on the problem of producing a compound or composite lens, with a double focus, of one piece of glass or else of two pieces of glass fused together. The invention of the Kryptok, or fused bifocal, is accredited to an American by the name of Borsch in 1899 and a short time after this the solid or one piece bifocals were invented by another American, Connor.

So the year 1900 marks the beginning of the era of modern spectacle lenses or the golden age of visual aids, just as it was the beginning of the great era of scientific development and advancement in all lines of human endeavor. The grandmothers of the children of the first quarter of this century have seen the rise of modern ophthalmic optics. In their time the great scientist von Rohr calculated punktal (meaning point focus) lenses and originated so-called vertex refraction so that the best forms of lenses with the widest angles of vision possible are now the possession of everyone who needs optical assistance. The famous Swedish ophthalmologist, Gullstrand, invented anastigmatic cataract lenses. The Kryptoks and Ultex one piece bifocals have been so improved that, in the case of the fused bifocals, "the rainbow is left in the sky" (since colored fringes often occurred with certain reading additions) and again, in the case of one piece lenses, the bulk if not all of the "hump" (for you can feel the separation of distance and reading portions in such a lens) "is left on the camel." As we go further into the century, we find many improvements for the average wearer of spectacles and, in addition, the so-called subnormal visual aids, such as the telescopic spectacles, first produced in 1910 at the Zeiss works in Jena and further improved by American opticians. These subnormal visual aids improved the distance and reading acuities of many persons with poor vision by enlarging the retinal images. In still more recent years has come the work of the Dartmouth College Eye Institute and realization of the significance of aniseikonia or unequal image sizes in the two eyes and the influence of this phenomenon on the ability to obtain and maintain single binocular vision.

And, finally, in our hasty review of the optical accomplishments of the past fifty years insofar as visual aids are concerned, we come to the contact lens—an optical lens now made of plastic which fits the eyeball somewhat in the same manner as a glove fits the hand, carries in its artificial cornea the corrections for the refractive errors of the eye and gets rid of the weight, nuisance, fogginess, breakability and other undesirable properties of ordinary types of lenses.

What Are Contact Lenses?

Contact lenses recently have received a great deal of attention both in medical journals and in the lay press. Public interest has been greatly stimulated as to what they are and what advantages they possess. The correction of optical errors of the eye, such as arise from anatomic or functional defects—among which may be mentioned hyperopia, myopia and astigmatism—through the medium of modern spectacle lenses has at least one fundamental defect which cannot be overcome. The system or combination of an eye and a spectacle lens is composed of a fixed lens and a movable (*Continued on page* 70)

LENSES

Contact lenses are plastic cups that fit directly on the eyeballs. They are almost invisible when worn, as illustrated in the photographs of the same woman comparing them with well designed modern eye glasses.

IN THE next few weeks, possibly in the theory that parents have been "softened up" by the tenderness and tumult of the holidays, they will be asked to make up their minds about next summer's camp for their children. Camp reunions will be held, letters, leaflets and advertisements will extol the competing attractions and advantages . . . and a good camp has plenty of both. It gives the child not only a wholesome but a uniquely happy experience. It gives him a vacation from the family (and vice versa) in an atmosphere of self reliance and security. Curiously, but logically enough, if it's a good camp he and the family seem to "fit in" better after he returns than before he left.

Camp can build him up physically, emotionally and morally. It is the rule and not the exception—even when a child has no "problems" —for parents to discover, when he returns from camp, that some stubborn little kinks in his personsonality or behavior have been ironed out . . . so smoothly and painlessly that it is hard to believe they ever existed. It's not magic; it's just that, in the summer camp, trained and experienced counselors are with him daily . . . in a setting that gives him a chance for novel, pleasant and satisfying effort. Camp can do all that . . . if only the parents choose well.

And how can they choose? It will take more than a study of the circulars that come in the mail. It will require talking to the parents of campers and the campers themselves, direct and probably detailed inquiry of the

The large photograph above and three of the smaller photos on the succeeding pages are from H. Armstrong Roberts; others are by courtesy of Camps Onibar, Geneva, Ta-ha-do-wa, Ahmek and Tanamakoon.

Choosing your child's camp

by JAMES A. BRUSSEL

camp owner or representative. You cannot select a good camp solely by a study of the athletic or scenic attractions. For one thing, the biggest talking point in "selling" a camp is not always the point of most importance to your child's welfare—and health. On that basis, it's fairly easy to make a wrong choice.

Last April a friend of mine boasted to me, "My boy is going to a wonderful camp this summer. It is on the largest lake in the state!" Five weeks after the season began, my friend was summoned to the camp by wire. His son had met with an accident. Yes, the camp was "wonderful" from any angle . . . sports facilities, medical attention, housing, equipment, food and guest quarters, but it lacked water safety!

During the spring of 1929, the year I was a camp physician, many parents bragged of a certain eastern camp where humane and thoughtful care was plainly inferred from the fact that the owner was himself a minister of the gospel. But he was also a business man and was not above cutting expense corners and taking chances, the cloth notwithstanding. Two year before the local health authorities had forced him to dismiss his head cook, a woman, because routine examinations established her as a typhoid carrier! In 1929 she appealed to her ex-employer to take her back. She wanted a vacation and she "knew" she was harmless for during the previous two years she had not infected anyone with the virulent disease that she carried without harm to herself. Her final selling point was that she would be willing to work the entire summer without salary! During the month of July typhoid fever broke out in that camp and infected many children, visiting parents and counselors.

On what, then, shall parents judge prospective summer camps for their children? The doting mother will regard sufficient warmth for her darling during the cold nights as a paramount requisite. The baseball enthusiast will place a big league diamond high on his list. Yet few, if any, consider the points of real significance to the welfare of their children. Let us take up, point by point, the factors which should influence the mother and father who are being solicited by camp owners for the next summer.

WATER SAFETY—The prospectus may italicize the fact that every counselor is certified as a lifeguard by passing the rigid requirements of the American Red Cross. That camp can have drowning after drowning if it lacks a proper water safety program. Placing expert swimmers on the dock and the raft is no insurance against disaster. A swimming lane, for example, between dock and raft, patrolled by counselors in rowboats at given distances on either side of the swimming lane is the most satisfactory, *even if these boat guards are non-swimmers!* A man in a boat can get to a drowning child quicker, and do more for him faster, than an Olympic champion who has to dive from the raft or dock and then swim to a boy who may struggle during rescue proceedings. When a man falls overboard at sea a preserver may be thrown to him, but no expert sailor plunges in after him. A lifeboat is lowered into the water.

Does the camp have a "crib" where nonswimmers and the children under eight years safely enjoy water sports? The best crib is one that utilized natural facilities . . . the sloping lake floor out to a depth of four to five feet where a wall prevents the youthful adventurer from wandering farther and having on the wall a walk which enables counselors to supervise the youngsters. Wooden cribs are hazards. Water soaked walks and floor are as treacherously slippery as ice, and rotting lumber is a source of splinters, not to mention the dangers of nails.

What are the boating rules? Does the camp permit unsupervised use of boats and canoes? Does the boating counselor know his subject? Is he a skilled teacher? Does he routinely inspect and *repair* his vessels? We know of one camp where the boating

counselor espied his own parents, who were visiting the camp, standing up in a boat hundreds of yards from shore. His megaphoned order to sit down was ignored and when they came in to shore the parents' privilege of boating was promptly revoked! Older boys and girls have rowboat and canoe races and excursions with one or two counselors along to supervise, but does the camp require all such campers to qualify first as swimmers who can take care of themselves in case of disaster?

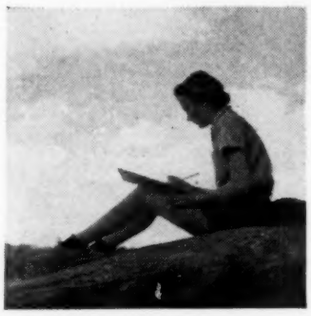
A certain camp in the Pocanos has, for the past twenty years, guaranteed to teach every child to swim before the end of the summer season or refund the entire fee to the parents. In over two decades of business, this camp has never had to make a return payment and its record of making every boy a swimmer within eight weeks is certainly an enviable and a commendable one!

If you are sending your child to a camp about to open for the first time, ask the owner if water depths have been carefully checked, *foot by foot!* In 1924 a prominent athlete opened a summer camp. On the second day the swimming counselor dived from the dock springboard and struck a large rock head first. He was killed instantly.

MEDICAL CARE—Part of this feature is a direct responsibility of the parent. No child should ever go to camp without having had preventive inoculations against typhoid and paratyphoid fevers, diphtheria, whooping cough and smallpox vaccination . . . not a week or two before departure, but during the spring so that immunity has ample time in which to develop. The successful vaccination at the age of 2 is utterly worthless when the 9-year-old girl leaves for camp.

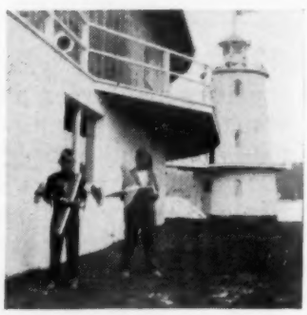
The number of camp physicians is not too important. For the run of the mill sunburns, upset stomachs and rashes, a skilled nurse will be as good if not better than the very green medical school graduate found at most camps. More important than the "resident staff" are the "consulting" facilities. Does the camp have close rapport with the county health authorities, the local health officer? Is there a hospital within reasonable travel distance? Does the camp owner have a business arrangement with local practitioners in case of emergency or in cases that are beyond the camp medical diagnostic and clinical facilities? A boy can break a leg sliding into "home" at camp or in his own back yard; a little girl can contract diarrhea from green apples in the country or at home. The only parental worry should be are rural medical facilities as easily available as they are in the city?

FOOD—The advertisement reading "rich whole milk direct from the cow to the camper" should make any parent pause for thought. The bottle of milk delivered to the city door every morning may not be as fresh or as high in butter fat as the "country" milk, but it is pasteurized—free of contagion! City health inspectors religiously scrutinize bottling plants to see that milk cans are sterilized, that no dirty hands contaminate the milk, that machines are not breeding nests of disease.



What about the milk your camp owner buys? The milk cans may be washed, but they cannot be aseptic. What about handlers? Are milkers inspected? Are they disease carriers? Does the farmer wash out the cans with water from a well that is polluted by undersoil drainage from the outhouse? Above all, if the milk is not pasteurized, if it is not delivered to the camp refrigerator in mechanically sealed, germ-free containers, nothing else in the matter of cleanliness counts.

Food is undeniably linked to the camp's health facilities. The kitchen, pantry, ice chests, cooks and kitchen helpers should be routinely examined and checked. Anyone who handles food, *including waiters,* should have a record free of chest and intestinal diseases, and routine examinations should be made of the blood, stools and throat smears. Kitchen vigil can never be relaxed for one second. The supervisor of food service must ever be on the lookout for the kitchen worker who, after using the toilet, fails to scrub his hands.



Foods that are eaten uncooked, such as greens and fruit, must be carefully washed. Kitchens and dining halls must be screened and screens kept in constant repair. An unrelenting vigil against flies, insects and rodents must be maintained throughout the season. If your camp owner tells you he has the services of an exterminator throughout the summer, do not shudder and think his camp is a disease-infested pesthouse; shy clear of the man who boasts he "never needs an exterminator."

Taste that water! Delicious! Crystal clear and cold as ice! But what is (*Continued on page* 56)

THE FAT and the Lean

by ROBERT B. GREENBLATT

EVERYBODY loves a fat man. A round face, a pendulous belly are tokens of mirth, symbols of good nature. To Santa Claus, old King Cole and Falstaff are applied such blithe adjectives as jolly, rollicking, merry, jovial and benign. The thin man, on the other hand, is suspect, and conjures up visions of a stingy Scrooge, ghost-ridden Hamlet and a lean and dangerous Cassius. Gaunt, dyspeptic, cadaverous, dour and skinny are the stark and ugly words that modify the lean.

But it ain't necessarily so! Medical science disputes this time-worn theory. Science holds that obese individuals are not only poor medical risks but behavior problems as well. Doctors are more apt to point to a gourmandizing Goering as typical of the fat man than to a benevolent St. Nick. And in the thin man they may note aesthetic, spiritual, sensitive and self-sacrificing qualities evident in a Lincoln or a Gandhi. These men hunger for soul-satisfying experiences rather than the sensual pleasures of excessive food and drink.

Since a good proportion of our population is overly plump, especially after having turned the corner on youth, let's see how the fat person ticks. Is obesity due to a glandular disorder? Is it inherited? Is it caused by overeating? Is it a behavior problem, a form of neurosis?

Obesity results when one consumes more food than is necessary for energy requirements, and as a consequence general or local deposition of fatty tissue occurs. But two out of every three fat people attribute their extra poundage to recalcitrant glands.

"Thyroid, you know," they confide mysteriously, between sips of chocolate malt.

Actually there are very few cases of glandular disorders responsible for obesity, although they do play contributing roles such as in underactivity of the thyroid, ovaries or testes. The thyroid does indeed have much to do with the control of cellular chemistry, but thyroid treatment of the overweight is frequently of little or no benefit, and harm may be done by injudicious thyroid dosing. The basal metabolism test, the measure of thyroid function, usually registers a subnormal rate in adipose persons but it is now conceded that the estimation of metabolic activity in fat people is both difficult and faulty.

If one of two sisters, eating equal amounts of food, living under similar conditions and enjoying the same habits and customs, becomes fat and the other retains her normal weight, glandular disorder may well be the culprit. But in most instances blaming the thyroid is just another alibi.

"Young Lucy's rounding out like Annabela. Like mother, like daughter," say the neighbors. Observations of this nature have led to the erroneous theory that obesity is inherited. The only hereditary factor in obesity is the inheritance and and perpetuation of an overloaded dinner table! Physique may be inherited but not corpulence. Curvaceous Lucy has merely copied the eating habits and delectable recipes of her mother.

There is a generalization among the medical profession that there is no obesity; there is merely overeating. And it is indisputable fact that the majority of obesities are caused by indulgence of the palate. Gluttony today is on the decline, however, it can't hold a candle to what it was in the days of the great gourmands. Think of the food orgies and debaucheries that took place under the Caesars; the groaning board of Henry VIII, whose single meal would suffice an entire modern family! By 1850 the formal repast had become a puny eighteen courses, by 1880 it had shrunk to twelve and in 1900 to six. Why is it then that although people eat much less today than formerly, some authorities claim that adiposity is on the increase? And why do not all overfed and underexercised people grow fat?

Fat Because They're Unhappy

Is it that obesity is a behavior problem, a form of neurosis?

Most fat children are spoiled, pampered and lazy. Later in life also, behavior problems are associated with many of the obesities. With some people it is an expression of discontent, of boredom, of inadequacy—and satisfaction may only be obtained in eating frequently and excessively. In others, the problem may be pure self-interest: their continued attempt to satisfy a craving for food is gastronomic sensualism, not unlike the craving of the nymphomaniac.

Some authorities say that excessive eating is an expression of a mood—a behavioristic response to a person's environment (*Continued on page* 58)

Blue Babies

New hope for the child

by CHARLES R. MESSELOFF

WHAT is the outlook for children with congenital heart disease, that is to say, for those born with imperfect hearts? What will happen to them? Will they be able to lead a full and active life? Will they be able to go to school, to learn a trade, to marry or to have children?

If you have a child with congenital heart disease or have a relative or friend who has such a child, you will be interested in the answers to these questions and you will want to know some of the latest developments in this field. As a result of modern methods of diagnosis and treatment there are children, now alive and active, who would have been dead or, at best, almost total invalids. Take, for example, the case of Jimmy Jones, who was born a so-called "blue baby."

When he was seen at the age of 5 years, his face, lips and fingertips were bluish in color. He became breathless and exhausted on such slight effort as walking across a room. It seemed as if his life was always hanging in the balance; only the constant and careful attention of his mother kept that thin thread from snapping. A careful medical examination disclosed a type of congenital heart disease that could be improved by a recently devised operation and Jimmy was sent to the hospital.

After the operation he showed a remarkable improvement. The blue color of his skin, lips and fingertips disappeared; his weight and strength increased; his ability to walk and play became almost normal. From an invalid, he became a normal child who enjoyed riding his tricycle in the street and playing games with the other children.

This is an example of only one type of congenital heart disease that is amenable to surgery. There are yet others in which equally spectacular results may be achieved. No wonder parents of such children are now asking their doctors, "Can my child, too, be helped?"

What do we know about congenital heart disease and how are we using these facts to correct some of nature's mistakes? That is exactly what congenital heart disease is—a mistake of nature made during the development of the child in the mother's womb. The human heart is a very complicated organ. It develops from a simple, straight, tubelike figure. When one considers the many changes that this simple tube undergoes before it reaches its final shape and structure, one marvels at the small number of errors nature makes in the "manufacturing" process of the heart. When something does go wrong in this complicated series of changes, a congenital heart defect results.

There are many opportunities for such defects to arise and therefore many kinds of defects or abnormalities may be found in the human heart at birth. Some defects may not even be recognized during life, so little do they affect health. Others are so extensive and complicated that they seriously interfere with the circulation of blood through the infant's body; the unfortunate victim may live for a short time only. Between these two extremes there are many grades of severity.

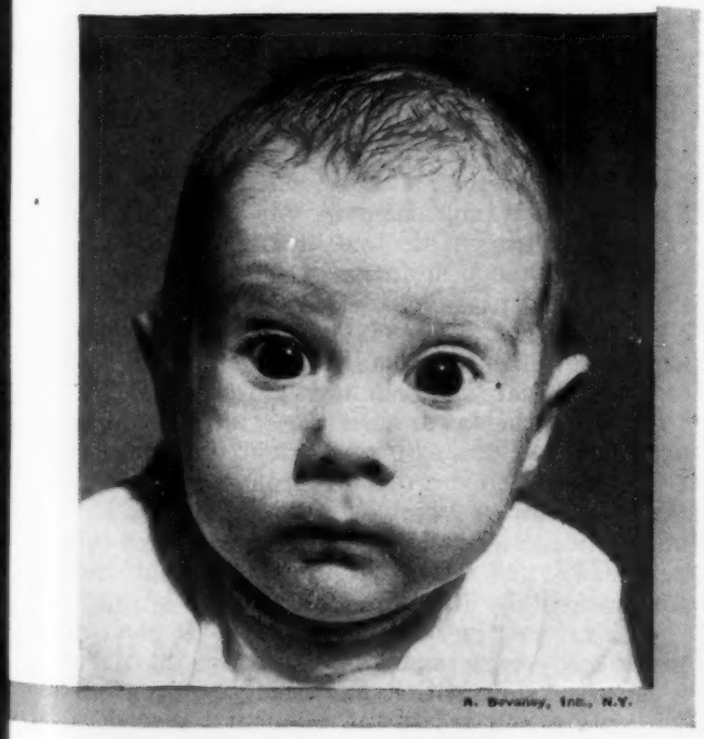
Until recently everyone took a hopeless attitude towards these children. Doctors felt that, while they could make a diagnosis of congenital heart disease, it was impossible and indeed useless to try to separate the various types of abnormalities. What was

born with heart trouble

the use, they asked, of being able to distinguish one type from another when nothing could be done about any type? Only ten years ago a noted authority on heart disease wrote that there was no method, medical or surgical, to cure congenital heart defects.

This is no longer true. Certain types of congenital heart disease are curable. Others can be greatly helped by operations described during the past few years. Doctors are now anxious to separate congenital heart disease from other kinds of heart diseases and equally anxious to determine the particular type of defect. Recent advances in diagnosis make it possible for the doctor to find out the exact kind of abnormality in the great majority of children. Sometimes all that is necessary is a careful examination in the doctor's office, but there are times when the examination must be carried out in a hospital where special x-ray pictures can be made and tests can be done. The wise parent will readily agree when the doctor advises a period of observation in the hospital.

You must understand that it is of vital importance to determine the particular type of defect. The recently described operations benefit only certain types of heart defects. They are designed to help the heart and the circulation overcome definite and particular handicaps caused by nature's mistakes. They are not cures for all such mistakes. No one, neither the doctor nor the parent, wishes to have an unnecessary and serious operation performed. Neither does anyone wish to leave out a child who can be helped by such an operation. Doctors are therefore very careful before they decide that a particular child is or is not a suitable candidate for one of the newer operations on the heart.



In deciding whether an operation should be performed doctors take into consideration the outlook for the particular defect found in the child. They ask themselves, "What is the future of this child if left alone? How long will he live? How long will he be able to carry on a more or less active existence? Is the defect likely to drain the enormous reserve power of the heart and lead to heart failure? Is the child likely to develop a serious infection in the heart itself?"

Obviously the answers to these questions are important. If the defect does not interfere with the child's life and activities and does not expose him to heart failure and infection, one would think twice before advising a serious operation on the heart.

Doctors have found it very useful to classify children with congenital heart disease into three groups. The first group includes children whose skin and lips always have a bluish hue or color. The second group includes children who usually do not show the blue color in the skin or lips but who can become blue under certain circumstances. In the third group are found those children who never show any blueness of the skin or lips.

Each group has a different outlook. In general, the first group includes the more serious and complicated cases with the highest death rate. The outlook for the second group is much brighter, while the future of the children who belong to the third group is, on the whole, best of all. Here are some facts that will interest you. The child with a congenital heart defect who is not blue has five times as much chance of reaching the age of 20 years as the child who is blue. What is more, the child with a normal color of the skin and lips has an excellent chance of carrying on a normal or almost normal life.

For example, Dr. Rachel Ash of Philadelphia studied a large number of patients with various types of heart defects. She found that more than 90 per cent were leading a life of normal or practically normal activity and that only 10 per cent—and all of these belonged to the first group of "blue children"—had to limit their activities drastically. Even for children in that group, however, is the outlook not entirely hopeless. There (*Continued on page 52*)

FALSE IDEAS ABOUT

by STEPHEN THIERMANN

MOST of us cling to a variety of superstitions about mental illness—"It can't happen to me"; "Mental illness is a disgrace"; "Once insane, always insane." These ideas do not correspond to facts. They help to keep hundreds of patients in mental hospitals who ought to be cured and discharged; they actually increase the amount of mental illness; they waste millions of our tax dollars.

"It can't happen to me" is one of the most damaging of these superstitions—I won't have a nervous breakdown; my wife won't become depressed during menopause; our son won't be a behavior problem.

The sober truth is that one of every ten persons will be incapacitated by a psychiatric disorder at some time during his life. Dr. Edward Strecker, one of the nation's leading psychiatrists, said recently that every fifth home you pass on your evening stroll down the neighborhood street will be struck by mental disorder. Someone in the family will be incapacitated by mental disorder in the sense we are temporarily crippled by flu or by appendicitis.

Mental disorders include the neuroses, emotional disturbances that dominate the acts and thoughts of the individual out of all proportion to their true importance, and the psychoses, where the mind becomes confused and the whole personality is profoundly changed. Neuroses cause disturbance of only part of the personality and do not remove the patient from reality nor from the knowledge of himself.

On an average day of the year, nearly three million persons are temporarily or permanently disabled by psychiatric disorders. They fill 45 per cent of all hospital beds in the United States.

The consequent economic loss to the nation is appalling. In 1944 it is estimated the loss of income to families of only the first admissions to state mental hospitals was $355,000,000.

So ingrained, however, is this superstition about our relative immunity to mental illness that we have as a nation taken little interest in insuring adequate prevention and treatment of mental disorders. Pennsylvania, for example, needs fifty public mental health clinics and has the equivalent of four full-time clinics. Fifteen states have no clinics.

One authority has estimated that public neglect of our mental hospitals means that 20 per cent of all persons admitted to a state mental institution are doomed to life imprisonment, when with adequate care and treatment they could be saved.

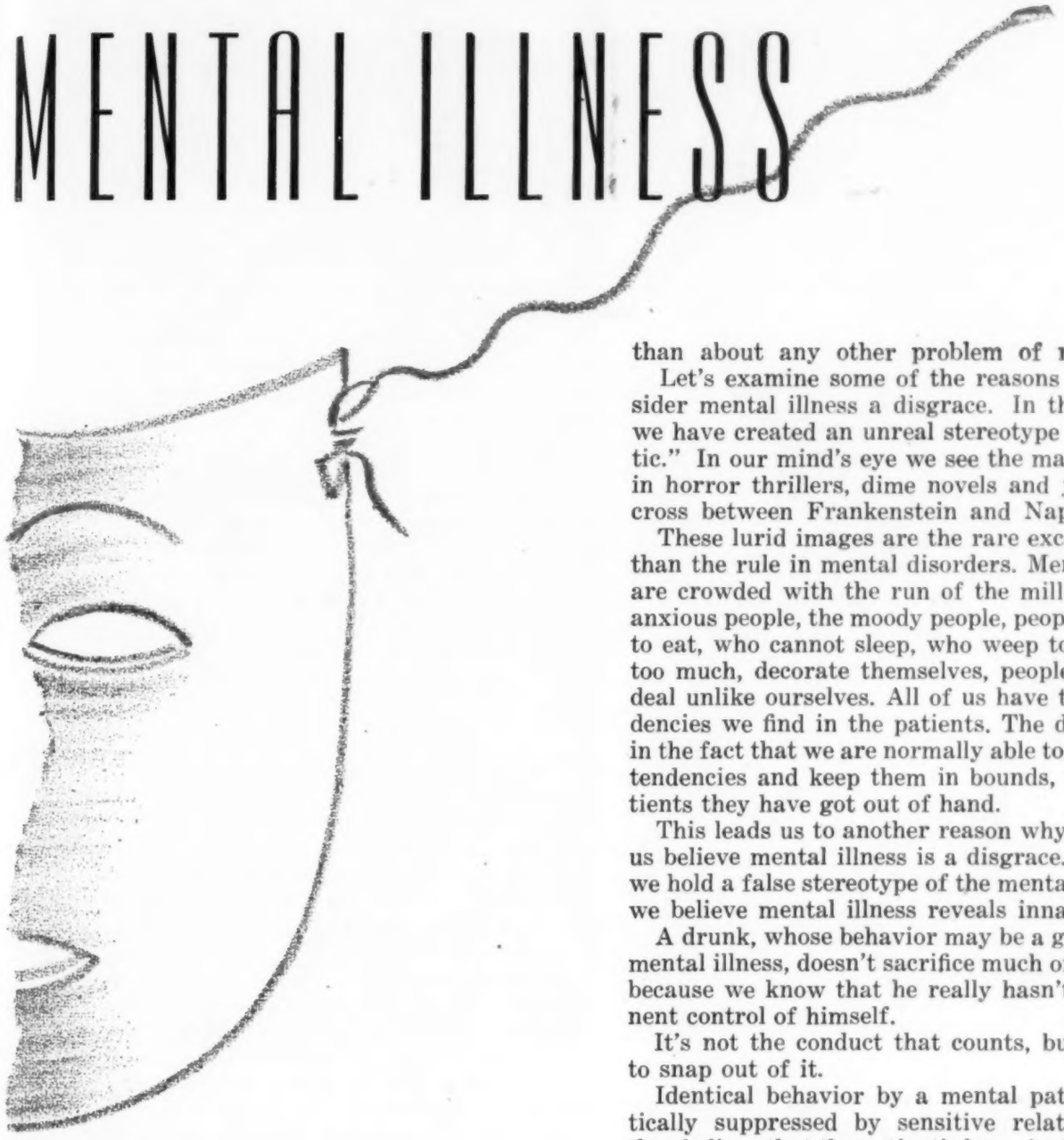
Probably the best index of our indifference to this gigantic problem affecting 10,000,000 of our citizens is what we spend on voluntary agencies for the improvement of mental health and achievement of high standards of treatment and care.

In 1945, the latest year for which figures are available, 14 times as many persons were suffering from psychiatric disorders as from tuberculosis, 83 times as many as from polio. We contributed to voluntary health agencies $22 for each victim of tuberculosis, $94 for each polio patient, and half a cent for the mentally disordered.

Our superstitious overconfidence—"It can't happen to me"—is an important reason for this neglect.

Another superstition hamstringing progress in prevention and treatment of mental disorders is

MENTAL ILLNESS



the conviction that "mental illness is a disgrace."

We don't send flowers to the mentally ill. When Aunt Nellie is committed to the state mental hospital, we try to forget about her. But when Aunt Nellie has a sudden attack of appendicitis, she is smothered in flowers, even if hitherto the photo of our dear old aunt has been omitted from the family album.

We hesitate to consult mental health clinics because of this stigma, although early diagnosis can prevent a high percentage of severe mental illness. This boycott of clinics, of course, increases mental illness, puts more patients in hospitals and takes more tax dollars out of our pockets. Each commitment prevented saves the state $5000 to $7000, estimated cost of an average period of hospitalization.

Because of this superstition, many employers hesitate to hire or rehire recovered patients. And convalescing patients worry more about the embarrassing questions they will be asked on discharge than about any other problem of readjustment.

Let's examine some of the reasons why we consider mental illness a disgrace. In the first place, we have created an unreal stereotype of the "lunatic." In our mind's eye we see the maniac pictured in horror thrillers, dime novels and joke books, a cross between Frankenstein and Napoleon.

These lurid images are the rare exception rather than the rule in mental disorders. Mental hospitals are crowded with the run of the mill nervous and anxious people, the moody people, people who refuse to eat, who cannot sleep, who weep too much, talk too much, decorate themselves, people not a great deal unlike ourselves. All of us have the same tendencies we find in the patients. The difference lies in the fact that we are normally able to control these tendencies and keep them in bounds, where in patients they have got out of hand.

This leads us to another reason why too many of us believe mental illness is a disgrace. Not only do we hold a false stereotype of the mental patient, but we believe mental illness reveals innate weakness.

A drunk, whose behavior may be a great deal like mental illness, doesn't sacrifice much of our respect, because we know that he really hasn't lost permanent control of himself.

It's not the conduct that counts, but the ability to snap out of it.

Identical behavior by a mental patient is frantically suppressed by sensitive relatives because they believe that the patient's loss of self control has bared some native flaw. In this respect it is interesting to observe that patients and their relatives frequently want to blame mental disorder on some external factor: a fall down the stairs, exposure to the sun, overwork.

Tuberculosis, once considered a disgrace, is no longer looked on as shameful because we know it's caused by a germ and that we are all subject to it. But we still do not understand mental illness. "Joe was always queer," we say; "Insanity runs in the family"; "She was always too sensitive."

Is it true that mental illness reveals a disgraceful weakness in mental and emotional equipment? It certainly is not. Approximately 35 per cent of severe mental illness (psychosis) is organically caused. It is indistinguishable in this respect from tuberculosis, poliomyelitis or a broken bone and no more disgraceful.

For example, 13.6 per cent of new admissions to mental hospitals in this country in 1944 were diagnosed cerebral arterio- (*Continued on page* 64)

HOW TO TAKE CARE OF YOUR FEET

PART III

by DUDLEY J. MORTON

ACHING feet may first be regarded as overworked feet. If the feet are normal, they will respond quickly to rest. If the feet are not so good and the achiness recurs daily, the response slows down and becomes less complete as the effects of excessive strain begin to show themselves. The appearance of actual pain does not mean a sudden breaking down of the feet, but that the tissues have become chronically strained with acute involvement of the nerves. X-ray examination of such feet will undoubtedly reveal the internal source of weakness and facilitate correction. The same feet might never have shown any sign of foot trouble in a less demanding occupation, unless some other factor, such as badly designed or fitted shoes, had introduced the element of abuse instead of excessive use.

Resting the Feet

A practical point in resting heavily worked feet deserves mention. Sitting in the ordinary manner, as in a chair with feet on the floor, is only about 50 per cent effective; sitting with the feet and legs comfortably supported at hip level, as on a couch, gives maximum benefit because it promotes a freer and more rejuvenating flow of blood through all the tissues.

Working hours are not the time to wear shoes that are ill-fitted or designed without regard for foot function. It is significant that shoes for outdoor sports and vacation wear have an "informality" of design which seems to imply that feet should have as enjoyable a time as their owner on such occasions. The thought could well be carried into our daily working hours.

To the oft-repeated question, "What make of shoe do you recommend?" the writer always responds that it is not the "make" of shoe that is important to your feet, but the type of shoe. The front half of the shoe, being the most prominent, naturally receives the most attention of our stylists. Consequently, except for the high heels in women's shoes, shoe faults are located chiefly in this region with the resulting toe ailments and distortions.

Our feet are more often fitted to the shoes that catch our fancy than our shoes are to our feet. This temptation might be controlled if before purchasing shoes, a person would make an outline tracing of his stockinged feet. A few minutes study of their front contour will help him to select the shape of shoe best suited for his feet. Practically all toe ailments can be prevented or relieved by a little more generosity in toe space.

To Relieve Corns

Corns indicate local shoe pressure. Shoes with more toe space should be tried. The corns should be treated, and shoes which irritate should be stretched in the region of the corns. Ingrown toenails should be treated antiseptically, its buried corner lifted and held up by inserting a small piece of cotton. Recurrence is prevented by cutting the nail straight across instead of in a curve, and by using a more rounded shoe.

Soft corns are really "pressure sores" between the toes. They also call for more toe space. To promote healing, a piece of lambs wool or a small, soft pad of rubber or felt should be used to separate the toes, but placed beyond the sore spot. Bunions are kept painful by shoe pressure. The pain would subside quickly if the sufferer went barefooted. But who can? Consequently the next best thing to do along conservative lines is to have the shoe stretched in the exact location of the bunion to form a comfortable pocket. Repeat the stretching until irritating pressure is eliminated. A bad bunion can't be disguised; a bulge in the shoe is inevitable and it might just as well be large enough to give relief. Severe toe deformities may need to be treated surgically, but conservative measures are worth trying first.

Any influence that promotes the custom of low heels for daytime activities among women will help greatly to reduce the painful ailments of their feet in severity as well as in frequency. If long-continued use of high heels makes low heels uncomfortable, a change to the latter is still advisable but should be undertaken gradually and not forced. The day can be started in lower heels, (if only for a half hour at first) increasing the period they are worn. The alternate use of low and high heels is not harmful. The damage, when present, has already been done by the high heels; and undoing that damage should proceed slowly. Gradual lowering of the height of the heels in day shoes is also a logical procedure.

Arch Disorders

Persistent foot pain, calluses under the balls of the feet and the "weak ankle" posture are red traffic lights where the feet are concerned. They indicate trouble ahead. The inter- (*Continued on page* 50)

BABY'S FIRST STEP

Whoops . . . baby made it! No wonder mother's proud of that first step! Proud, too, of her judgment in selecting White House Milk for the formula that helped baby develop those strong, straight, sturdy legs.

Rich, wholesome White House Milk generously provides pure vitamin D_3, the "sunshine" vitamin that's a *must* for developing good bones and teeth. And it supplies each essential nutrient of fresh milk in double-rich form. There's none better!

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Zestful rich, ripe tomatoes from the heart of sunny California!

U.S. GRADE A (FANCY)

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How to Take Care Of Your Feet

(*Continued from page* 48)

nal disorders of which they are the outward signs are the ones principally responsible for the long recognized and persistent public "foot problem." Visual disturbances and dental defects are more prevelant than disabling foot trouble, but they no longer represent an uncontrolled public problem. The reason is obvious. As a result of past educational efforts, symptoms of eye strain take us straight to the eye specialist; an aching tooth takes us even more quickly to the dentist. Our feet play so important a role in our physical, economic and social welfare that we can adopt the same attitude toward them with full justification.

Professional treatment of these internal disorders of the feet follows two different methods. The older method is widely known and has the endorsement of long usage. It employs various types of arch supports, metallic and nonmetallic, as a mechanical aid; while special exercises are prescribed to overcome the muscular weakness which, in this method, is regarded responsible for these disorders. X-ray examinations are seldom used in this form of treatment because it was established before the importance of weight distribution upon the bones and the associated variations in bone development had been identified.

The second method of treatment has been developed from instrumental analysis of normal and abnormal weight distribution, referred to earlier in this article. It is less generally known because, owing to the recognized need for professional supervision in these cases, its use has been held available only through professional channels. In this method an x-ray examination is required because it is the most reliable means of disclosing the defects and faulty changes in the weight-bearing mechanism of the feet.

Tight, nonmetallic insoles are used, specially designed to establish normal, painless function by correcting faulty weight distribution and eliminating all harmful stresses. Rest periods and improved circulation are employed as general measures to restore strained and irritated tissues to their normal state. Exercises are not recommended when feet are painful, for the same reason that they are not used in treating a sprained wrist, elbow or back.

Regardless of the method of treatment that may be followed, strongest emphasis is given to the necessity of obtaining professional help. When anyone is in doubt as to whom he should go, then, as in the case of any other physical complaints, the most logical person to consult is the family physician. He knows foot symptoms can come from many other causes than the mechanical ones discussed in this article. His broad knowledge of the entire body and its ailments qualifies him to give the most reliable advice and recommendations. Also—since the internal conditions which later give rise to arch disorders are usually inherited, or acquired during infancy—as long as a child is under the care of a pediatrician, parents are entitled to advice from him about the youngster's feet. Except in the more conspicuous cases of structural weakness, painful foot symptoms are not likely to occur during childhood. But any degree of postural weakness should be noted and appropriate measures for correction started when indicated.

"Corrective" Shoes

The extent to which the public has turned to shoemen for relief from foot trouble is shown by the enormous annual sales of "corrective" shoes and commercial arch devices. For many years, the so-called "corrective" or "orthopedic" shoes have been conspicuously exploited. Foot health claims and slogans play a prominent part in sales policy. Many shoes have trade names that imply health-promoting or corrective qualities. But in spite of its apparent interest in foot welfare, the industry is barren of evidence of any serious effort to gain intimate knowledge of the feet or of the disorders it presumes to treat.

The principal merit of such shoes should be attributed to the modification or elimination of harmful style features rather than to the pads and gadgets they contain. In fact, like many examples of modern art, the ugliness of some corrective models has been their most powerful advertisement without being an index of merit. The devices they contain have excellent sales promotion value but too often possess no greater therapeutic merit than the seductive trade name stamped on the shoe.

When these devices and pads are incorporated uniformly in shoes that are manufactured by the hundreds or thousands of pairs daily, it is incredible that they should be able to give universal benefit to feet of all shapes and degrees of disorder. To think otherwise is like expecting to buy properly fitting eyeglasses or dentures at a bargain counter.

The information about feet which is possessed by the shoe designer, manufacturer and salesman is scarcely above that of the average layman. Since all of us must wear shoes, however, no one is in a more favorable position to help the public than the shoeman, if he is willing to change his present tactics and, as in other industrial fields, through scientific

knowledge find out what to do and how to do it.

During the recent war period a machine was submitted to the government for use in treating foot disorders in the military services. It was able simultaneously to shape one side of a support to the shape of a person's foot and the other side to the internal contour of his shoe. The machine seemed to have the foot problem solved on a purely mechanical basis. It was enthusiastically received and put to generous testing. But the results were disappointing for the excellent reason that, in the treatment of bodily ailments, no machine can serve as a substitute for human brains.

THE END

The Ups and Downs of the Irish Potato

(*Continued from page 27*)

In 1873, Luther Burbank found a naturally fertilized seed ball on an Early Rose potato plant in his mother's garden at Lancaster, Mass. From the seed he grew twenty-three seedling plants. He selected the most promising and from it developed the famous Burbank potato.

At the time of the American Revolution, there were two established varieties, the red and the white; today we have about one thousand.

In America about 1868, when the Early Rose was first placed on the market, it sold for $66.66 per bushel.

In the 'seventies, a leading New York dealer paid $1,000 for a pound of potato seed.

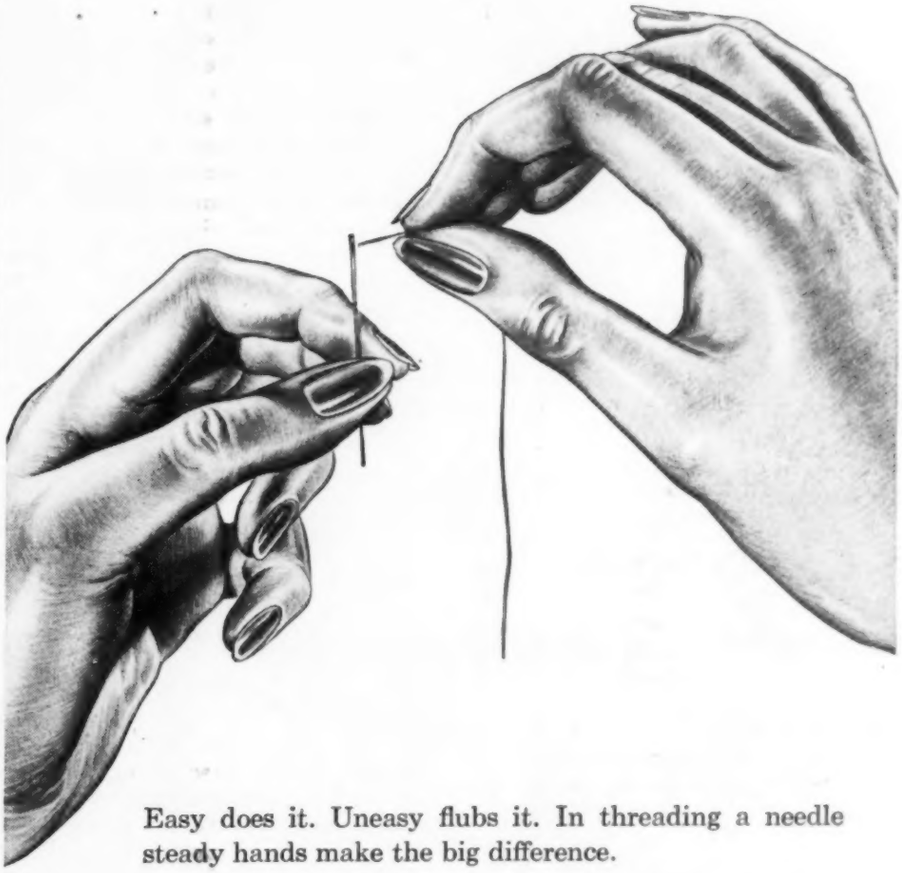
The Potato Boom, which takes its place in history with the South Sea Bubble and the Tulip Craze, came at the beginning of the twentieth century.

In Europe great excitement was caused by the introduction of a few new varieties of potatoes which were advertised as being immune to blight. Each day the public learned that some grower had bought a tuber of a new variety for hundreds of dollars. Some purchasers paid more than the weight of the tuber in gold.

Greenhouses were built for forcing the tubers of these expensive varieties. People who could not pay $500 for one tuber bought sprouts for $20 each. One man boasted he had sold a thousand sprouts from one potato and still had the original potato left. The mania spread to America. Henry Ward Beecher wrote that new varieties sold for $50 each.

The Irish potato is one of the excellent foods of the world. A knowledge of its ups and downs may make this spud, or potato with a pedigree, whichever name we prefer, a potato of romance.

A "STEADY" Postum drinker



Easy does it. Uneasy flubs it. In threading a needle steady hands make the big difference.

Here are scientific facts you ought to know about the caffein in both coffee and tea: Caffein is a drug! It is a stimulant that acts on the brain and central nervous system. Also, in susceptible persons, caffein tends to produce harmful stomach acidity. So, while many people can drink coffee or tea without ill effect, for others indigestion, nervous hypertension, and sleepless nights result.*

*See "Caffein and Peptic Ulcer" by Drs. J. A. Roth, A. C. Ivy, and A. J. Atkinson—A. M. A. Journal.

Doctors agree: never give a child coffee. Serve Postum-with-milk instead. Children just love it!

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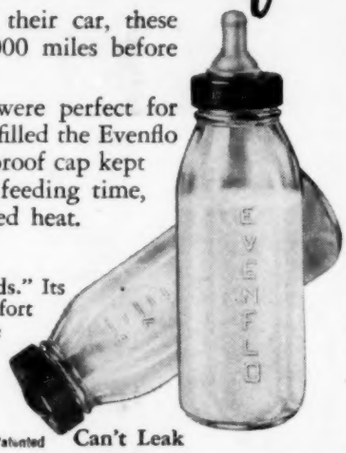
Mrs. Harrison says their Evenflo Nursers were perfect for travel. She made enough formula for 24 hours, filled the Evenflo bottles and packed them in ice. Evenflo's leak-proof cap kept both formula and nipples sterile enroute. At feeding time, bottles were heated in restaurants or by canned heat.



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Blue Babies

(*Continued from page 45*)

are instances where they have lived well into adult life and a noted musician lived to his sixtieth year despite the presence of a serious heart defect.

Now it happens that recent advances of surgical methods have been made in each of the three groups just described. I should like to tell you something about these types of congenital heart diseases and what surgery offers to these children.

Until a few years ago there was very little we could do for children with congenital heart disease who showed blueness of their skin. Those who were very blue were much retarded in growth and development. Many died in infancy; some were able to survive to early childhood. Those who survived were also quite handicapped. They became breathless and exhausted after the slightest effort—as was the case with little Jimmy. But in 1945—only two years ago—Dr. Blalock and Dr. Taussig of the Johns Hopkins Hospital in Baltimore announced their startling results with an operation they had performed on 55 children.

Jimmy represents a successful example of this type of operation.

Again I wish to emphasize that not all patients with blue skin and lips will be helped by this operation. The cases must be carefully selected in order to be certain that the definite and particular defect present will be relieved by this type of an operation. The operation itself is extremely difficult and calls for great skill and judgment on the part of the surgeon. Even in the best of hands a certain per cent of the children do not survive the operation.

The risk, if carefully estimated, is justified. The improvement in the great majority of living patients is definite and remarkable.

As Dr. Blalock says: "The condition of most of the children has been altered from almost total invalidism to apparent if not real normality. . . . Some children who had never walked before the operation are now able to walk."

This type of operation is now being performed in many hospitals throughout the country. There is little doubt but that as the years go by it will be improved and some of its dangers will be lessened or removed.

The second group of cases includes, as I have said, those children with congenital heart defects who may, under certain conditions, show some blueness of their skin and lips. The defect known as *patent ductus arteriosus* is an example of this group. It has been estimated that there are about 20,000 people in the United

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"Will glasses alone improve my eyesight?"

NO! You, too, like the railroad man, should have "seeing ability" to meet *your* visual requirements. You may not be able to achieve this unaided, and the only way to make sure is to seek professional guidance. Glasses alone will not improve your visual skills. Important as glasses are, their aid to your visual comfort and efficiency depends upon the professional services and technical skills of your Ophthalmologist, Optometrist, Ophthalmic Dispenser (Optician).

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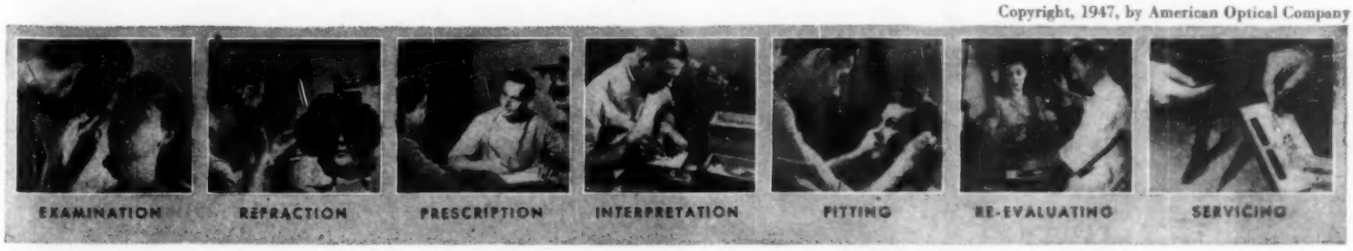

Professional services and technical skills such as these are essential aids to your seeing ability — your eye comfort, your visual efficiency. It is for these services and skills — not for glasses alone — that you pay a fee. "*Seek professional advice — not glasses at a price.*"

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States with this congenital heart defect.

In children with this defect a blood vessel which should close after birth remains open. If the vessel is small, there is no strain on the heart. If it is large, the heart finally weakens and symptoms of heart failure appear.

Regardless of the size of the blood vessel it is possible to cure this condition by tying off the vessel and thus shutting off the stream of blood flowing through it. Since Dr. Gross of Boston first described this operation in 1939 hundreds of patients have thus been cured. Please note that I use the word *cured*. This is exactly the situation. The blood vessel is closed; the patient is completely cured and has a perfectly normal heart. Do not be surprised, however, if your doctor hesitates to advise this type of operation for your child. Some doctors doubt that the operation should be done on children with this condition who are not inconvenienced in the least by its presence. All doctors agree that when symptoms of heart strain are present or an infection develops the operation to close the blood vessel should be done at once.

The third type of congenital heart defect that can now be cured by surgery is a condition known as coarctation of the aorta. In nontechnical language this means that the large blood vessel coming off the heart—known as the aorta—is narrowed. The narrowing rarely causes any symptoms during childhood and never gives rise to a bluish color of the skin.

You may then well ask, "Of what importance is this condition?" Its seriousness lies in the fact that it causes high blood pressure. As a matter of fact, the first thing the doctor thinks of when he finds a child with high blood pressure is the congenital narrowing of the aorta.

The diagnosis is not difficult but until recently there was no treatment for this abnormality. Two years ago Dr. Crafoord in Sweden and Dr. Gross in Boston independently described an operation to cut out the narrowed portion of the blood vessel and then sew the two cut ends together. This sounds fantastic—but the proof of its soundness is seeing a child who had such a narrowed aorta, has undergone the operation, and is now cured. There are now several such cured cases. Of course, not every child with a narrowed aorta should be subjected to this operation. Here, too, sound judgment on the part of your doctor is your best guide and the best guarantee of a successful result.

There is one further advance in the treatment of children with congenital heart disease that will interest you. One hazard is ever present in every child with a congenital heart defect; that is the possibility of an infection at or near the place of the defect. Until penicillin and streptomycin were discovered such an infection was practically the equivalent of a death sentence. Now with the proper use of these new drugs we can cure almost 80 per cent of such infections.

More important than the cure is the prevention of the infection. We now realize that tonsil operations or teeth extractions in such children may be followed by an infection in the heart. We therefore give such children large doses of penicillin before and after taking out the tonsils or extracting the teeth. It is still too early to say that by giving the penicillin one can always prevent heart infections; but certainly we can prevent the great majority of infections. If your child has a congenital heart defect you can do your part by telling your dentist of the child's heart trouble so that he can inject large doses of penicillin as a precautionary measure.

I cannot leave the subject of congenital heart disease in children without telling you something about the activities that these children may be allowed. I can well understand the desire of mothers and fathers to protect the child with heart trouble from any activities that they believe may harm the heart. Let me therefore assure you that the great majority of children with congenital heart disease who are not blue and who do not become blue on exertion can carry on normal or fairly normal activities both in and out of school.

Those who have only a minor defect or whose defect has been cured by one of the operations I have just mentioned should be allowed all the normal games and exercises suitable for a child of like age. They should be permitted to attend the regular class in school and should be encouraged to lead normal lives.

Only those children who have more serious defects or who show some heart strain must be restricted in their activities. Competitive sports and games certainly should be forbidden. But here, too, parents should hold back from excessive restrictions or unnecessary coddling. If the child does not become short of breath or tired after ordinary activities it is better to leave him alone.

The child's ability to exercise or his tolerance for work is the best guide for the amount of exertion to be permitted. I have seen people who, despite the fact that they have congenital heart disease, have grown up, gone through school, learned a trade or profession and have become useful and happy young men and women. I have known girls with congenital heart disease who have married, borne babies without difficulty and are tak-

ing care of their children and of their homes.

The motto therefore for all who supervise children with congenital heart defects is optimism. The new operations for some types have revolutionized the outlook for these children and have stimulated many scientists and doctors to try to help other types of defects by surgical operations. Furthermore the use of penicillin and streptomycin has taken away some of the dangers and the terrors of infections of the hearts of these children. The future promises to be bright for them and it is the duty of those who have their welfare at heart to see to it that they obtain the full benefit from every advance in medical and surgical diagnosis and treatment.

Cue at Kew Gardens

(*Continued from page* 19)

ing sore preceded the chills and fever, the headaches, sensitive eyes and rash.

As the story spread throughout medical circles, other doctors found they had something to add. There was Dr. Victor Stern, whose office was located in an apartment building in the Bronx. He said he had had a number of such cases in the past several years. He too had called them atypical chickenpox, and he had records on ten of his cases.

Laboratory examinations made on the blood of two of these patients showed they had had rickettsialpox. And again the basement told the same story—the mouse cafeteria in the incinerators and the mites on the walls —some fat and red with blood. In a short time twenty more cases were reported in five city boroughs.

From all available evidence it appears that the chills and fever begin from one to three weeks after the mite bite, and that the rash follows in two to four days.

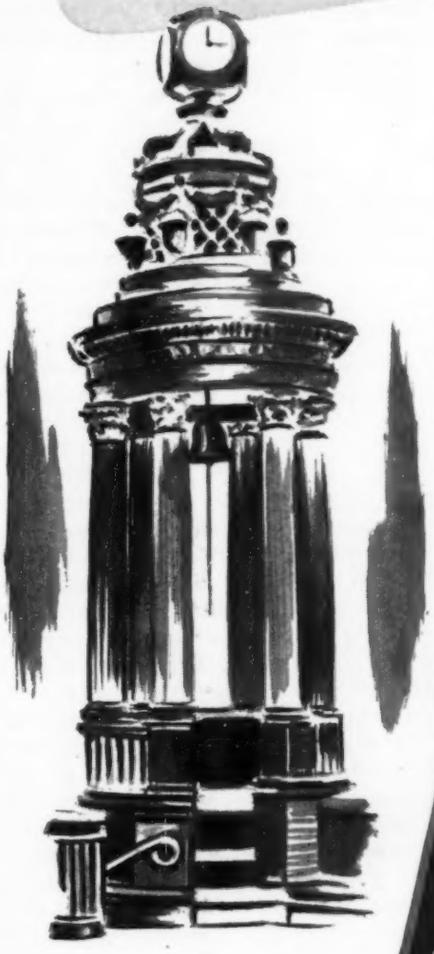
It is quite likely that rickettsialpox will soon be reported in other sections of the United States, and perhaps in other parts of the world. Rocky Mountain spotted fever is more than a disease of the Rocky Mountains. It is too early yet to predict just where cases will crop up. But wherever mice and these mites find harbor together, there is a potential reservoir for rickettsialpox.

Coming in Hygeia

Nasal Nightmare

By Samuel J. Kopetzky, M.D.

SIGNALS - *that have come to mean so much . . .*



Signal . . . this historic bell, now hanging in the rostrum of Lloyd's of London, is rung to notify the underwriters of important events which affect their insurance policies. The bell was salvaged from the frigate Lutine wrecked off the coast of Holland in 1799 with a cargo of £ 1,000,000.

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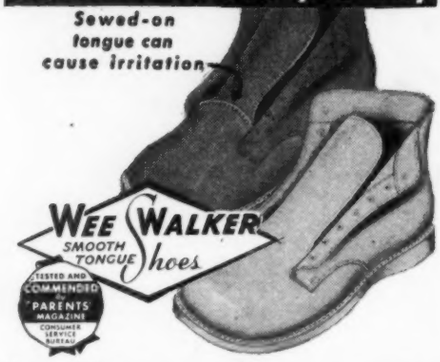

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Simplifying Motherhood

(*Continued from page* 30)

in the hands of clumsy amateurs, no matter how well-meaning they happened to be.

We shall even refrain from heating his bathroom till it reaches the temperature and humidity of a hothouse, and his tiny body streams with perspiration and his mucous membranes become engorged—and then wonder that he "catches cold" when we take him suddenly out into a room at ordinary temperature.

When the time approaches for changing his feeding, we shall add new foods gradually from time to time. No longer shall we feed an infant on his mother's milk exclusively right up to the day of weaning, and then suddenly deprive him of his accustomed food supply, his source of warmth and comfort and the manifestations of mother love on which he is so dependent, all at one fell swoop.

When he cries, using the only language he knows to show us that he is still hungry, we shall not fill him up with catnip or fennel or camomile tea, or Jamaica ginger or soothing syrup, in the mistaken notion that he is suffering from "colic." Nor shall we attempt to figure out, by means of a scale and a feeding chart of somebody's rules, how much he ought to take at a feeding, any more than we do when we come to our own meals. Instead, we shall give him his proper food at regular intervals of three or four hours; and let him take as much as his own appetite tells him he needs to make up for the losses that vary with varying conditions about him.

If he gulps up a little wind now and then, we shall excuse this social error; not accuse him of suffering from gas, or indigestion, or colic, and proceed to dose him with castor oil or some other vigorous, vicious cathartic. Even if he spits up, or spills over and returns a little milk now and then, we shall remember that this is an automatic, normal safety device against overfeeding; not a danger signal denoting that he must either be starved or physicked for the next twenty-four hours, as was the rule in the bad old days.

Last, but not least important in this program of simplifying motherhood, we shall accord him that right to which every sensible person is entitled, the periodic physical examination. That is to say that we shall take him at frequent, regular intervals to the doctor for a careful checking over that will complete our procedure.

The doctor will weigh and measure him, study his physical, mental and emotional development and prescribe not medicine, but the proper food, clothing and management. He will give him the vaccinations and inoculations that every child should have to protect him against diphtheria, whooping cough, smallpox and tetanus, and in certain areas typhoid fever—diseases that used to be the scourges of childhood until we discovered how to anticipate them instead of trying, often in vain, to cure them. And he will outline a regimen to minimize other diseases and malnutrition, instead of waiting for them to overtake the little fellow.

Yes, motherhood *can* be simplified. It is indeed a tough job, at best; why make it any harder than is absolutely necessary: We are protecting every other crop we raise, whether animal or vegetable; why not protect and improve our crop of babies?

Choosing Your Child's Camp

(*Continued from page* 42)

the source of the camp drinking water? Has a county health inspector checked it? Do the camp latrines drain, unseen and underground, into the stream that produces the water used for drinking and cooking? Does the health department routinely check it for contamination, bacteria and other organisms? Are the pipes leading to drinking fountains and sinks properly protected from erosion, contamination, and invasion by filth and disease?

Over and beyond the attractive menu is the important factor of dietary supervision. Parents need not bother to find out if desserts consist of cream puffs and layer cakes or stewed fruit. Find out if the three meals a day constitute a well balanced diet commensurate with the child's physical and physiologic requirements. Does a proper amount of equilibrium between fat, protein and carbohydrate exist? Are vitamin and mineral contents considered? One child may come home in September plump and fairly "bursting from his clothes," thanks to a top-heavy diet of starches, while the child next door is lean, hard, muscular and bearing a weight commensurate with his height. Next winter notice how poorly the former combats infection while the latter either is unaffected by it or easily throws it off.

SPIRITUAL FACTORS—Practically every camp provides on-the-grounds religious services and guidance, or arranges for church attendance. This in itself is not the total answer to the task of building ethical and upright adults of tomorrow. The men and women with whom the children spend every hour of their day, the counselors leading the campers, listening to their naive questions and confidences, carry almost all of the responsibility of shaping the youngsters' future. The

inculcation of good sportsmanship, ethical conduct, gentility and tolerance depends ultimately upon the moral fiber of the camp owner.

All camps have a weekly honor roll or call and awards of camp letters and medals. The latter are for achievement in the spheres of athletics, dramatics, arts and crafts, writing, spiritual achievement and improvement. These rewards will be impressive and carry a significant meaning for the child if they are given to those who justly merit them. But if medals and letters are evenly divided at the end of a season as bait to entice parents to sign up for the next summer, then your child has been cheated of a golden opportunity.

When you consider a camp, talk to parents whose children have gone there the previous season. Find out if particular attention had been given to initiative, cooperation, teamwork, honor and good citizenship. Above all, talk to the veteran camper himself or herself! A child is seldom enthusiastic about a camp deficient in good leadership.

The old adage, "You get what you pay for," is applicable to camp counselors. The organization that pays good salaries will obtain the services of good men and women. The camp owner who requires his counselor to sign up ten families before closing an employment contract will have little regard for the finer elements of camp life.

Satisfy yourself on the above points, and all others in which you may be interested will not only prove secondary, but with rare exception will be found to be of prime caliber. The camp that provides conscientious water safety, careful medical care, sanitary food service and topnotch moral guidance will turn out to have excellent athletics, dramatics, arts and crafts, bungalows and guest quarters. Selecting a camp is not a hit or miss choice to be made hurriedly and without thought. Your child's health, welfare, future . . . even life . . . are at stake. Remember: *Choose With Caution!*

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by James A. Brussel, M.D.

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The Fat and the Lean

(*Continued from page 43*)

affording temporary respite from anguish caused by intellectual, social or sexual failure. Constant nibbling from a box of candy may put more pounds on these people than would a gargantuan repast on an untroubled Roman gladiator.

Although the behavioristic theory of obesity has been accepted by many doctors, it has been challenged recently by others. Perhaps, they say, fat people are unhappy because they are obese, and not obese because of behavioristic problems. Which comes first, the chicken or the egg, and does it matter if the problem can be corrected?

The Scientific Formula for Reducing

While it is interesting to know these various theories for overweight, it is more constructive to know the correct treatment for obesity on which there is agreement among physicians. It resolves itself into a mathematical formula based on cold hard facts.

The daily caloric value of the diet should be less than the energy requirements.

It may be as low as 1200-1500 calories, or even less, depending on the amount of work or energy expended. The diet should contain a minimum of about one-fifth of a pound (90 to 100 grams) of protein and minimal amounts of sugar and starches. Discipline, will power and patience are requisites for success.

Millions of dollars are spent each year by gullible people on dietetic tricks, syndicated food fads, patent self-medication, spas, massage, exercise and glandular therapy. Remember that untold damage may be done by excessive thyroid medication, especially when the use of this drug is not under the strict vigilance of a physician. Dinitrophenol and other systemic poisons, often recommended and much advertised, are dangerous.

The obese patient should be under a reputable doctor's care and should be instructed about food values; for example, a glass of beer contains 168 calories, a glass of milk 184 calories. A proper balance in favor of weight loss can easily be established. Weight loss will be accomplished on a diet of 1200-1500 calories, high in proteins (eggs, meat, fish, cheese, etc.), low in starches and sugar, and liberal in fresh fruit juices and vegetables.

Supplemental vitamin therapy is advisable and desirable, but exercise is not necessary. Too many daily constitutionals and deep-knee bends may whet the appetite out of all proportion to the good it does. And thyroid medication, in most instances, is not required. Although the latter increases metabolism, it also stimulates appetite.

Turning Angles Into Curves

Since the person of normal weight does not enter this discussion and the fat man is the villain of the piece, the thin man, willy nilly, is the hero. To be sure, he may be dyspeptic and sour but his rotund brother is more apt to be. There are lean-faced boors and skinny, crotchety cranks but, scratch the surface, and one will probably find kindly, understanding humanitarians. Although the lean may have fewer personality quirks than the fat, they, too, have a weight problem and may wish to solve it for increased health or beauty.

Provided a thorough physical examination has ruled out organic disease, the lean are better insurance risks than the obese. Some thin people have excellent appetites, eat heartily and yet cannot gain weight. Some are unable to assimilate the ingested food. In others, because of latent foci of infection, or because of constant restlessness and continuous expenditure of nervous energy, the metabolic processes are more highly pitched.

Where the appetite is poor and intake of food is low, stimulation of the appetite may be undertaken, under a physician's guidance, by the use of vitamin B complex, small running doses of thyroid, multiple feedings rich in nutritional value, mild exercise along with rest periods and utter relaxation from worries. A hearty breakfast, rich in starches and carbohydrates, should start the day. The administration of small doses of insulin, one-half hour before meals, may be resorted to if necessary to stimulate the appetite by artificially inducing hunger. A gain in weight is sure to follow, like night the day, if such a regimen is carried on for a period of months.

There remains something to be said about the hunger mechanism and its relationship to both obesity and leanness. This mechanism may either exaggerate or minimize the appetite. The hypothalmus has come to be looked upon as the zone where emotional reactions are integrated. Here, hidden in a small area at the base of the brain, lies the very mainspring of primitive existence. Herein lie the important mechanisms that have to do with the instincts of mating, of satisfying hunger and thirst, of self protection by combat or escape.

The influence of emotional reactions on appetite cannot be ignored. Consider the lovestick boy or girl who, heartbroken, piddles with the food at the dinner table or, in contrast, the tormented, frustrated woman who finds relief by indulging herself in

cakes and candies. Loss of appetite of this origin is known as *anorexia nervosa,* and it may last for months or years with dangerous loss of weight and health. It is quite apparent that certain emotions associated with fear, love and worry inhibit the hunger mechanism while other emotional factors stimulate it.

A craving for food seems to involve the higher centers of the brain and that such a center may be stimulated or inhibited by our emotions and by our senses is evident. Furthermore, medical authorities now realize that the ingestion of the carbohydrates—sugar and starches—is followed in many people by delayed hunger reactions and, consequently, a cycle of indulgence in food may easily be set up. In them, the hunger mechanism may be temporarily put at rest by a diet high in protein and practically devoid of carbohydrates so that after a few weeks the craving for food is lost, and the habit pattern for frequent and excessive intake of food may be broken.

It is both fair and encouraging to say that no normal person has to be too fat or too lean. Complacency in regard to one's under- or overweight might better be defined as stupidity. The fat person, especially, should beware, because while Shakespeare was a little off the track when he referred to lean Cassius as a dangerous man, he was right on the beam in calling Falstaff that "epicurean rascal."

EPIDEMIC IN BERLIN

About 2000 cases of infantile paralysis were reported in Berlin between late August and mid-October, when the epidemic passed its peak, reports the Berlin correspondent of the *Journal of the American Medical Association.* A British epidemic reached its peak early in September, with 662 cases reported in one week.

The U.S. Army hospital in Berlin lent its "iron lung" to a German hospital. Four more iron lungs were sent from the United States and two American specialists accompanied by specialist nurses flew to Berlin to aid in the emergency. Only one American case has been reported.

American physicians noted that many of the patients were adults; the oldest patient was 62. A contributor to a Finnish medical journal published at Helsinki says that in Finland the disease is becoming more common in adults than formerly. He and a writer in the London *Lancet* report cases occurring late in pregnancy in which, as American physicians have observed in similar cases, there was no interference with the course of pregnancy or the health of the child.

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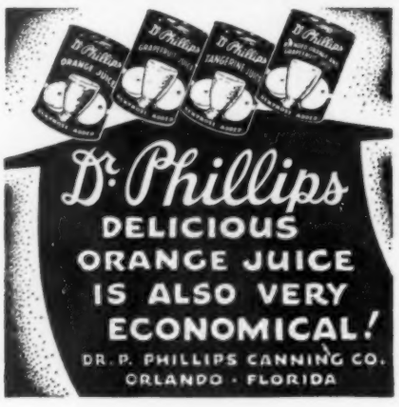

Why Fear Sterilization?

(*Continued from page 23*)

advantages to the patient of postpartum sterilization—that is, of performing the operation at the time she is in the hospital for the birth of a child—were recognized in the publication of several articles in medical journals.

The operation on the male in which the *vas deferens* was cut and tied was introduced by a Swedish practitioner in 1894, and was brought to this country in 1899.

Protection of the feebleminded by sterilization has been handicapped by public opinion, which feared it might involve a change in sexual characteristics which would be too great a sacrifice to demand of the afflicted individual. When, however, it became known that the protection could be given without this change, several progressive states passed laws whereby the operation could be performed at state expense. The first such law was voted in Indiana in 1907, and others followed until now there are twenty-seven states with sterilization laws in active use.

Most of these laws require a careful review of the evidence in each individual case by a state board of medical and other experts. If the patient or the patient's family is dissatisfied with the decision, appeal to the courts is available. Legal action is seldom taken, however, as both patients and their families welcome the operation once they understand it fully.

Before the heads of state institutions in Virginia applied the law passed in that state, they tested it in the courts, eventually carrying it to the U.S. Supreme Court. Justice Oliver Wendell Holmes in rendering the court's decision said, "It is better for all the world, if, instead of waiting to execute degenerate offspring for crime or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. . . . Three generations of imbeciles are enough."

The laws of some states make it possible to perform the sterilization operation in certain instances where it is for the public good (usually hereditary mental afflictions) without the consent of the patient or the patient's family. In practice, however, this is almost never done as the operation is now recognized as a protection, not a sacrifice. At the end of 1946, state institutions had reported a total of 46,603 operations at state expense. They were about equally divided between patients suffering from mental illness and mental deficiency (feebleminded-ness).

As in other fields of medicine, improved technics in sterilization are constantly being sought. A method of sterilization in women which may some day make this operation little more complicated than a routine visit to the dentist is now being studied. Instead of making an abdominal incision, one specialist in the diseases of women seals the tubes by the use of an electric cautery on the end of a uterine probe. Under local anesthetic the probe is inserted into the uterus from below and when x-rays show it to be in the correct position, the current is turned on for a matter of seconds. The resultant scar tissue closes the openings into the uterus. A test by gas under pressure is made after six weeks to assure that the tubes are completely sealed.

Much work remains to be done before the advantages of this method can be weighed and evaluated sufficiently. For the present, therefore, tubectomy, with the brief period of hospitalization it entails, would seem the best-grounded method.

With broader research will also come broader public knowledge of the importance and nature of sterilization. The lay reader will no longer associate the term with the barnyard form of castration and its inevitable unsexing. The minor operation will be recognized as the most desirable way to prevent the continuation of certain mental illnesses and defects and to keep children from being born to lives of unavoidable suffering. It will also be known as a boon to many normal couples whose marriages are permanently overshadowed by the fear of a pregnancy which would probably be fatal to the mother.

When the true nature of this operation is generally known, there will be no further need for articles which ask, "Why fear sterilization?"

SYPHILIS DECLINES

Thirty-five per cent of all cases of syphilis reported annually are found by private physicians, Dr. J. R. Heller, Jr., chief of the Public Health Service venereal disease division, says in the *Journal of Venereal Disease Information*. The reasons, he explained, are not only that the disease takes varied forms, so that the patient frequently goes to the physician with a complaint which seems to him to have nothing to do with the disease, but also because modern medical practice calls for such thorough examination. Dr. Heller said that within the last decade the death rate due to all forms of syphilis has fallen from 16 to 9.3 per 100,000 population and infant deaths due to syphilis dropped from 69 per 100,000 live births to 25.

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Gallstones

(*Continued from page* 29)

agony; although occasionally he may pace the floor. He is apt to have a chill followed by a fever; sometimes he has nausea and vomiting. The urine is apt to become darkly stained or even jaundiced while the stool becomes clay-colored; jaundice may appear in the skin, eyes, lips and other surfaces of the body. Few people can stand the agony of a gallstone colic without the beneficent help of a powerful sedative.

There is no set pattern for the number of such attacks that a person can have. He may have a single attack or repeated attacks coming on every few weeks. Generally speaking the gravel and smaller type of stones are more apt to produce colic since their small size makes it easier for them to enter the ducts, a position which is the basis of the colic; whereas the larger stones encounter more difficulty in entering the ducts. These accordingly are less apt to produce colic, but they are more apt to produce biliary dyspepsia.

Immediate and Long-Time Treatment

Treatment depends upon the behavior of the stones in the body. During the stage of colic it is necessary to give the sufferer relief from the agonizing pain. A powerful sedative is necessary. Usually morphine is employed. External heat to the gallbladder region is helpful.

The appetite as a rule is lost and nausea is usually present, hence a very light or even liquid diet is employed. The use of fluids is to be encouraged. Bed rest is usually employed.

When the acute stage of the colic has subsided, then a more permanent program has to be considered.

When gallstones are known to be present either by the evidence of x-ray films or by the excruciating experience of the colic, then surgery is generally considered, with certain specific exceptions which will be mentioned later.

Bile ducts from the liver connect with the gallbladder and also with the duodenum, where the bile enters the digestive tract. Normally the bile does not flow directly into the duodenum but first passes into the gallbladder, where it becomes concentrated. When the gallbladder is removed, the bile thereafter follows the direct route and the ducts that carry it dilate, possibly in partial compensation for loss of the gallbladder.

Most physicians agree that a gallbladder that contains stones and has caused a biliary colic should be removed. Gallstones that have caused colic are apt to repeat the performance. Certainly few people wish to repeat the experience of a gallstone colic.

Following the removal of the gallbladder with its stones, the person should follow the so-called "gallbladder regime" for some time, perhaps for years. It must be remembered that the factors which produced the gallstones before are still present and may produce gallstones again. Removal of the gallbladder did not remove the causes or the mechanism for the formation of stones.

Overeating will certainly produce biliary dyspepsia. Hence the need for caution and a controlled program of living after the removal of the gallbladder, in order to avoid the recurrence of stones or biliary dyspepsia.

Medical Management

To begin with, overweight must be corrected if it is present, likewise high fat diets and sedentary life beyond the requirements of the person's physical condition should also be avoided. These all tend to cause the recurrence of biliary dyspepsia. Certainly there is no point to inviting trouble.

Medical management consists of those procedures which experience has shown afford the greatest protection and the maximum comfort to a person with an impaired biliary system, and protect him from biliary dyspepsia.

First is body weight. Gallbladder patients should not be overweight. If they are they should get down to their proper weight level. This is done by restricting the food intake to 1,000 to 1,200 calories with proper regard to the intake of protein, minerals and vitamins. Then they should follow the gallbladder diet, which consists of those foods that cause the least irritation to the liver and gallbladder while at the same time maintaining the body in a state of adequate nutrition.

The total energy value of the diet should be enough to maintain normal work and normal weight and no more; every additional ounce of food imposes a needless burden upon the liver. Hence the gallbladder diet consists of 1,800 to 2,200 calories if the person is of normal weight and if he is performing ordinary work. Allowances are made for those engaged in heavy work.

If a person is overweight he should follow the reducing diet of 1,000 to 1,200 calories. He may combine the low caloric diet with the principles of the gallbladder diet. Well cooked foods are desirable in the diet and so are a generous amount of fruits and fruit juices, but not the hard fruits as raw apples and cantaloupe. Iced foods and beverages are to be avoided.

Other factors come in for considera-

tion in the treatment of biliary dyspepsia. Many people lack a sufficiency of bile in their intestinal tract. Some physicians are of the opinion that this insufficiency of bile is partly responsible for the constipation and flatulence often present; hence it is desirable to give bile in some form to these people. It is usually given as dehydrated bile or bile salts.

Saline laxatives are sometimes employed, so are digestives. External heat and various types of baths are employed to advantage.

However, surgery offers the best all around treatment and results; nevertheless there are people in whom the ailment must be treated entirely by medical methods. These are persons of advanced years, persons with severe heart or kidney disease and those who refuse surgery.

Can Gallstones Be Made to Pass Without Surgery?

What about this talk of passing stones without surgery? In the first place a certain amount of misrepresentation has been practiced in the past by some of the cultists in this matter. By prescribing olive oil and soda, or some such combination, they would cause the patient to pass "soft stones" which they promptly claimed were gallstones. Such "soft stones" were formed in the intestine by the action of the alkali on the oil or fat. They did not originate in the gallbladder and, in fact, had nothing to do with it.

But gallstones do pass spontaneously at times during a colic, and the question has arisen whether they can be caused to pass by a controlled program.

By a system designated as "biliary flush," some doctors have been able to cause the patient to pass stones. The stones so passed are of the smaller size only. It is doubtful if a stone larger than a quarter of an inch can be made to enter or pass through the outgoing ducts by the biliary flush method.

Further, the experience to the patient is not particularly pleasant. It is probably little short of the distress caused by a real colic under treatment; further, the passage of one or more stones does not mean other stones have not remained behind to cause further trouble at a later date.

So all in all, biliary flush is not a procedure to be recommended in the routine treatment of gallstones. Even the writers on this subject recommend that "surgery remains the surest method for the removal and the most effective for dealing with a seriously diseased gallbladder."

The best form of treatment for gallstones that cause distress is the removal of the gallbladder with its stones.

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False Ideas About Mental Illness

(*Continued from page* 47)

sclerosis. This is a hardened condition of the blood vessels in the brain and nervous system which hinders proper functioning. Nearly 6 per cent of new admissions had mental disorders caused by syphilis in which the brain and nervous tissues are destroyed by infection.

Roughly 65 per cent of patients with severe mental illness have functional disorders. Functional disorders are those in which environmental factors (the home, the school, war experience) appear to predominate over organic factors.

Psychiatric experts tell us that no one is immune to mental illness; that if the strains are severe enough, all of us will crack. Our resistance to mental strain varies from individual to individual but is almost entirely dependent upon emotional education in the home and school.

The factors in this emotional education are traceable and can be itemized—in different ways, it is true, from the way in which infection is tested—but, nevertheless, the responsible agents can be catalogued and measured. It is weakness not in the inner man but in the outer world.

Next time you are tempted to whisper to an awed and eager audience: "Have you heard? May's been sent to the state hospital," remember that 35 per cent of all mental illness is organically caused, that 65 per cent is the result of unfortunate environment, and that our stereotype of the "lunatic" is as obsolete as the theory that mental illness is of lunar origin.

The third superstition, "once insane—always insane," is true only as we make it so. "Once insane—always insane" can easily become a seductive rationalization for denying adequate treatment to the 600,000 mental patients in our 554 mental hospitals throughout the country.

"Since the insane cannot be cured," runs the rationalization, "why should we waste money on treatment? Custodial care ought to be enough."

With that attitude it is not surprising that 64 per cent of all patients today are taken to the hospital by sheriff, deputy sheriff or police and 29 per cent are lodged in jail prior to transportation to the hospital.

How many go to general hospitals under a sheriff's care? We still find it difficult to believe that "insanity" is really a sickness, that mental patients respond to treatment and are not offenders against a society that can only put them away where they won't do any harm.

Much mental illness can be cured, our superstition to the contrary notwithstanding. The most common type of mental illness is dementia praecox. It accounts for about 26 per cent of all first admissions to state hospitals. Twenty years ago there was no known treatment for this disease. Today, insulin shock treatment may result in marked improvement or recovery in 50 per cent of dementia praecox victims, or in 83 per cent if illness has been present less than six months. Electric shock treatment, also relatively new, may result in comparatively rapid recovery or marked improvement in 70 to 80 per cent of manic-depressive or involutional psychoses. In one experiment with patients suffering from involutional melancholia, treated patients were discharged in an average of five months, untreated in 37 months. These and other modern psychiatric treatments have prompted Dr. Karl Menninger to write:

"In general, no branch of medical science, except obstetrics, is blessed by so many recoveries as is psychiatry."

Because of this superstition of incurability we have failed to demand adequate expenditures for mental hospitals, and so we have forced many of them to become predominantly "concentration"—to use a word we learned since 1932—or custodial units rather than modern treatment centers. If there are skeptics who believe that current criticism of our mental hospitals is exaggerated, let them consider these facts:

In 1946 in U.S. institutions there was a 74 per cent deficiency in psychiatrists; 78.8 per cent deficiency in graduate nurses; 91.9 per cent deficiency in clinical psychologists; 70.8 per cent deficiency in psychiatric social workers; a 22.9 per cent deficiency in attendants!

Where custody is primary and treatment secondary, you would expect to find building caretakers getting better compensation than the personnel responsible for the care of patients, and this is precisely what you do find. On an average in 1946 psychiatric aides received $500 less annually than the help maintaining the buildings.

Initially, of course, a sound treatment program costs more than concentration camps, and our legislators have been unwilling to make the necessary investment. What a penny wise and dollar foolish policy this represents has been suggested in several recent studies.

If the new cases of dementia praecox admitted to chronic psychiatric hospitals received intensive insulin shock treatment, it is estimated the nation would save $2,000,000 annually.

In Pennsylvania electric shock treat-

ment saved the state $175,044 on 179 patients with involutional melancholia. The American Psychiatric Association has summed up what introduction of modern treatment in state mental hospitals could mean.

"Once scientific care is accomplished in state institutions," the A.P.A. reported, "there is every promise that within the next generation this country would never need to build an additional mental hospital bed."

"It can't happen to me," "mental illness is a disgrace," and "once insane—always insane," all of them superstitions, each of them false, cost us dearly as a nation. The first encourages a foolhardy overconfidence, blocks the construction of mental health clinics, and wastes thousands of tax dollars. It may bring us, or a loved one, to the gates of a state mental hospital with a 50 per cent instead of the 70 per cent chance for recovery to which modern science entitles us.

The second, "mental illness is a disgrace," multiplies the amount of severe mental illness by discouraging early diagnosis, handicaps rehabilitation, and is a frequent cause for psychological abuse of recovered patients. The third and last of these miserable superstitions is true only as we make it so—by neglect. If we want to contribute to a peacetime scrap drive, let's give these three pieces of junk in our mental attics a No. 1 priority for the scrap heap!

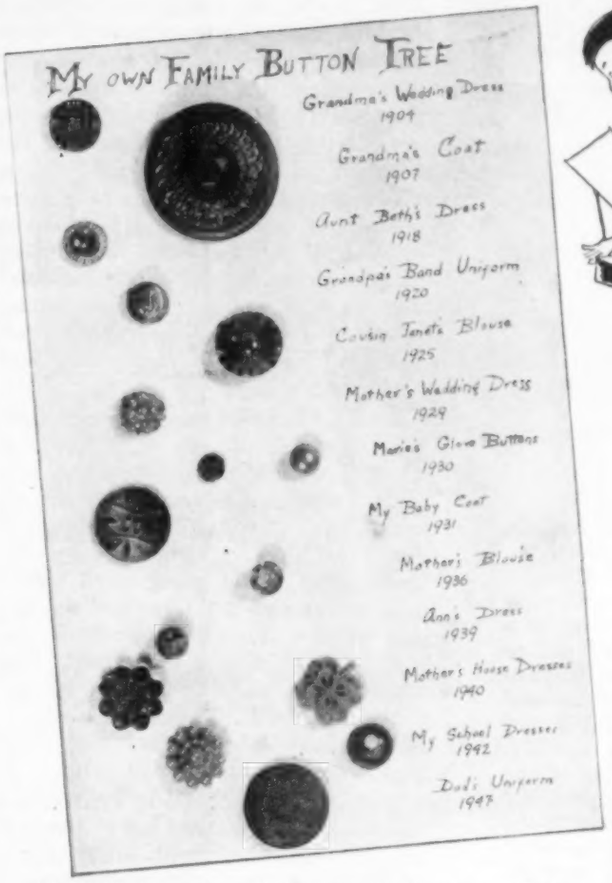
TUBERCULOSIS

Mass surveys to detect early cases of tuberculosis by x-ray examination should first be concentrated in the 92 cities of more than 100,000 population an editorial in the *Public Health Reports* points out. They would reach about 30 per cent of the adult population. If hospitals at the same time began a program of chest x-ray examination of everyone admitted to the hospitals or to their outpatient services, an additional thirty million persons would be covered, and most of the remaining population could be reached by energetic action of state and local health departments in smaller cities and rural areas.

The mass x-ray survey, with modern equipment which enables the examination of a thousand persons a day, has established itself as the primary step toward the eradication of tuberculosis. It discovers an impressive number of tuberculous and other chest conditions previously unknown to the health authorities or to the person affected. X-ray examination of 23,000 persons by the Lake County (Illinois) Tuberculosis Association discovered 107 cases of definite tuberculosis and 357 other chest conditions.

Helpful modern points of view

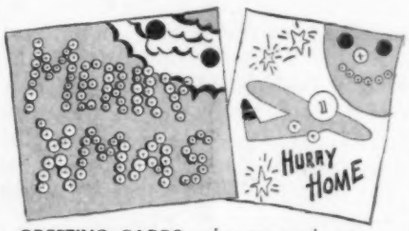
Suggestions we hope you will find interesting and helpful



FAMILY TREE: a chronological record of family associations that might be an attractive gift for relatives.

New, unexpected play possibilities in BUTTONS

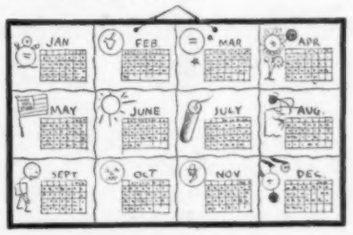
Next time your young one challenges your imagination with an impromptu demand for something "new" to do, you might like to surprise him with some of these unusual and fascinating things to do with buttons.



GREETING CARDS: pictures made gay with colored buttons.

Most families have a lot of heterogeneous, no-longer-used buttons from which to draw upon. Then there are the almost endless modern novelty buttons that can be picked up in the ten-cent stores.

Here illustrated are 4 ideas to start with, already tried by mothers, and found to furnish hours of constructive entertainment.



BUTTON CALENDAR: buttons and sketches decoratively describe the months.

FRIENDSHIP WREATH: piece of fabric and a button collected from each friend.

This information comes from the National Button Society, 47 Keith Street, Springfield 8, Mass.; the *Button Bulletin* of the N. B. S.; and *Just Buttons* magazine, Jr. Dept., 104 Newton St., Hartford 6, Conn. Special acknowledgement to Mrs. Edwin F. Tarbox, (N. B. S.), Arlington, Mass.

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DOUBLEDAY

Ethel Florey: Penicillin Pioneer

(*Continued from page* 24)

it was difficult to maintain an effective level of the drug in the blood. Why not inject penicillin into the muscles? What would be an effective dose? How much of the drug could the body tolerate?

Just then the Radcliffe Infirmary admitted an emergency case, a young woman suffering from severe pelvic infection and hemorrhage following a self-induced abortion. Life was ebbing fast. Ethel Florey got permission to try intramuscular injections. Twice a day for six days she administered what seemed, at that time, enormous doses of penicillin. The girl recovered —and the large doses of the drug had produced no ill effects.

Ethel Florey was learning fast. Large loses could be shot into the muscles with safety. The next objective, she decided, was to maintain in the blood stream a concentration of penicillin large enough to keep the bactericidal battle going until infection was wiped out. Demand for the new therapy increased rapidly in the hospitals and clinics of Oxford. She found herself praying that the supply of the drug still trickling out of Howard Florey's laboratory would keep pace with her widening operations.

Then, at the Radcliffe Infirmary, one day the nurses ushered her to the crib of a tiny 2 month old baby. From fingertips to toes, his small spine twisted into a gruesome curve, this child was afire with osteomyelitis, a formidable infection of the bones. It was difficult to find a bit of muscle on the skinny babe, but into pinches of skin and flesh Ethel Florey began a series of penicillin injections. By the ninth day he gained a few ounces. Six months later, pink and lively, his spine almost straight, the baby was handed back to his parents.

Thus osteomyelitis was added to penicillin's triumphs. And soon the list grew longer: empyema, streptococcus meningitis, bacterial endocarditis, septicemia, and a host of infections centering in different organs and parts of the body. Unlike the sulfa drugs, it was just as effective in curbing the staphylococci as the streptococci. And unlike sulfa, penicillin could be administered in enormous doses without harming the patients.

Every effort now was being made to produce larger amounts. A small —but woefully inadequate—quantity was now coming from an English drug firm. Since penicillin is excreted through the kidneys, the patients' urine was collected, brought back to the laboratory, and there the priceless drug was recovered, purified, and made to serve another time.

By September, 1942, the first stage of Ethel Florey's one-woman war against infection seemed over. Penicillin had been used successfully in 187 cases. Technics had been developed for administering it intramuscularly, intravenously, by mouth, in ointments and on dressings. After each case had been studied and all results and dosages tabulated, a report announcing the news to the medical profession was published in *The Lancet* early in 1943.

With obviously restrained enthusiasm, a long editorial in the same journal declared that the Floreys' amazing work "leaves no doubt about the potential value of this bacteriostatic agent." But in four words the editorial's title spelled out the tragedy of the situation: "Unequaled—But Not Obtainable." If penicillin was to do wartime service, a miracle of production would be needed.

Howard Florey had crossed the Atlantic in July, 1941, to interest American government officials in penicillin's wartime possibilities. However, mass production of the then unproved drug involved a huge gamble, high priority materials, and the improvising of new high-speed methods. The report of Ethel Florey's convincing clinical work turned the trick. American pharmaceutical firms now went all out for penicillin production.

D Day found Ethel Florey in charge of her own unit administering penicillin therapy in one of England's great transit hospitals. In that one hospital the God-given drug saved 3,000 men, shipped over from the Normandy beachhead, from gas gangrene, most dreaded of battlefield infections. Penicillin enabled surgeons to patch up horribly mangled limbs without amputation, and made possible new wonders of plastic and orthopedic surgery.

After V-J Day penicillin became a byword for sure, quick, gentle infection fighting. Today, many a drugstore sells more penicillin on a single prescription than Ethel Florey had at her disposal during those historic months of 1942!

PUBLIC HEALTH

Forty million Americans are not covered by any health service, according to a speaker at a recent legislative committee meeting of National Congress of Parents and Teachers. He said only 4 per cent of the American people have community health service meeting the minimum standards of the American Public Health Association. The committee approved introduction of a bill in Congress to provide federal funds for assisting states in the development and maintenance of public health units.

Grow Up and Be Happy

(*Continued from page* 35)

is done must be specially designed and equipped; one feature is a floor of playrooms where parents are not admitted.

British plumbing is an old American joke, but in two of the playrooms simple but ingenious plumbing is a vital part of the equipment. One room is designed to give children freedom for unrestricted play with water. There are hoses, tiled walls and an inclined, waterproof floor so that the water can run off into a drain. Next door is the "mess" room; here children can carry out all the messy experiments they yearn for, smearing and plastering the walls with lurid drawings, all of which can be cleaned off in a few minutes with a hose. There is also a "quiet" room for quiet conversation or for children who wish to be alone.

Another room is fitted with simple gymnastic apparatus which, under the charge of a specialist, enables children to discover the enjoyment of free and skilful use of their bodies. Here acting takes place, also, and group activities. Everything the child does is valuable from the point of view of his treatment and is carefully noted in the case sheet. As the institute is also a training center for lay and medical men and women who want to take up child psychotherapy, these case records are used in the training course.

On arrival parent and child are welcomed and then interviewed separately. The child goes to the playrooms to undertake a series of amusing tasks, which are tests designed by the director of the institute to bring out the child's individual qualities and abilities. On another day a careful medical examination is carried out and an intelligence test is given.

These are pointers only. The hard work is to help the child to make his own great efforts to thread his way through, around and over his own fears and obstacles to a consciousness of his own powers, and to find a way in which they can be expressed in harmony with society.

A special feature of the work is that parents who have problems of their own, which may affect their handling of their children, can receive help from physicians trained and experienced in the psychotherapy of adults.

Seventeen years of continuous experience has well demonstrated the soundness of the institute's technic. Hundreds of case records show that astonishing changes can be brought about by these means in apparently hopeless cases. Careful follow-up of children treated at the institute has shown that many boys and girls who once seemed to have no chance of happiness are now leading vigorous and creative lives.

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Conquest of Blindness In the Hills

(*Continued from page* 21)

Tennessee, Virginia and West Virginia.

When Dr. McMullen returned to Washington in the spring of 1913, his report got immediate action from the U.S. Public Health Service. He was assigned to set up a program of trachoma treatment and prevention.

This was no easy task since the field was new with no past experiences from which to draw. But, with the cooperation of the State Board of Health, the first hospital for the treatment of trachoma in the United States was established in September, 1913, at Hindman, Kentucky. There followed the establishing of similar institutions at Jackson, Pikeville, London and Greenville. In most cases these earlier hospitals were simply the largest houses in the community, equipped with beds, medical and surgical supplies, doctors and nurses.

About ten years after Dr. McMullen had completed his survey in eastern Kentucky, a clamor for pensions for the blind was heard in Missouri. A study of about 5,000 applicants in that state revealed that the majority of cases were afflicted with trachoma. A later survey showed an acute problem of trachoma in both Missouri and Arkansas and immediate steps for prevention and treatment were taken by the Public Health Service in cooperation with health authorities in these particular states.

In Kentucky, meantime, thousands of cases had been treated through the constant activities of the small trachoma hospitals. When each hospital had served its purpose in a particular community, it was discontinued. All such institutions in the state were closed by the early 1920s.

About 1922, the will of Mrs. Elizabeth Irvine disclosed that her homestead, including fifteen acres of land at Richmond, Kentucky, was to be deeded to the trusteeship of the Kentucky State Medical Association for the purpose of establishing a hospital as a memorial to her grandfather, Dr. Ephraim McDowell, whose statue now stands in Washington's Hall of Fame as the originator of "McDowell's operation" for the removal of an ovary or an ovarian cyst. In 1926 the Irvine-McDowell Memorial Hospital for the treatment of trachoma was established with Dr. Sory as director.

At present this hospital has a capacity of thirty-eight beds with one doctor and two nurses, a third nurse does visiting in the field in order to discover new cases and give follow-up service to patients discharged from the hospital.

From 1926 to 1936 the Federal Government operated the hospital with state aid. In 1936 the Social Security Act made it possible for the state to operate the hospital with federal aid. Any resident of Kentucky may enter the Irvine-McDowell Memorial Hospital for free treatment for trachoma. Nonresidents of the state may enter for treatment through a reciprocal agreement whereby rations are paid to the hospital by the state referring the patient.

In the treatment of trachoma many difficulties are involved. In the first place, the disease is confined primarily to the mountains where the people have been peculiarly independent and innately averse to change. They are steeped in family customs and traditions. For instance, a visiting nurse some years ago was told by a trachoma victim that he saw no advantage in treatment since his father, his grandfather and as many other ancestors had had trachoma for years and it just seemed "an ordinary thing."

Many sufferers regard trachoma as absolutely incurable and do not consider it worth while to take treatment. They stoically suffer the itching, burning, watery eyes and intolerance of light which accompany all cases of the disease and even the intense pain and the disability which arise in its complications. They grow tired of the prolonged treatment which is necessary in most cases in order to get any permanent benefit.

Many of them do not consider that the disease is really serious. In fact, no one dies from trachoma, and for that reason not many people become greatly alarmed about it, not realizing the amount of suffering and economic loss which it causes. The cost of medical care, the loss of earning power, and the expense of blind pensions, are a few of the economic items which are involved in this disease.

Another difficulty involved in the treatment and prevention of trachoma is the inconsistency of the disease. Much has been said and many theories have been proposed to account for the undue prevalence of trachoma among certain peoples. Certain races have been said to be more susceptible than others. Altitude and climate have been accused of being predisposing factors. However, we observe trachoma in mountainous districts in our own country and in the plains of Egypt; in damp countries such as Finland as well as in dry and dusty Arabia. Poverty, overcrowding, insanitary living conditions and malnutrition are thought to constitute perhaps the most potent factors in bringing about the prevalence of trachoma. These factors, of course, would contribute to most types of diseases.

Nationality seems to have something to do with the prevalence of trachoma. Dr. Sory states that in over twenty-five years' experience in examining thousands of trachoma cases, he has never diagnosed a positive case among Negroes. In contrast, Indians, Chinese and Japanese are particularly susceptible to this disease.

In 1946, a study of 1500 blind persons receiving blind aid from the Kentucky Department of Welfare was made by Dr. Sory and the late Dr. F. W. Caudill, the state epidemiologist or expert on the spread of disease. This study revealed some interesting facts regarding trachoma. The report shows that trachoma is found most frequently in families who live in crowded, poorly kept homes in rural areas and that trachoma has a distinctive geographic distribution in the state. Of the 120 counties, 84 contributed one or more persons blind as a result of trachoma. The counties were distributed throughout the length and breadth of the state, but the highest rate of blindness from trachoma prevailed in a nest of counties in the mountains in eastern Kentucky.

According to this report, of the known causes of blindness, trachoma leads the list. Scars from this disease interrupted vision at all ages throughout life's span but the greatest single portion had their onsets in the age period from 1 to 9 years. This would indicate that trachoma may be contracted very early in life and progress rapidly to blindness.

In the treatment of trachoma, there must be taken into consideration all the complications of blindness resulting from the disease. Treatment is composed of a combination of medicine and surgery. The chief operation used in the early active cases of trachoma is called grattage. It causes an expressing or rupturing of trachoma follicles on the under surface of the lids. Other operations are used in the later stages of treatment.

The greatest advancement in treatment has been the combination of the accepted surgery and the use of sulfanilamide. Although grattage alone arrests the course of trachoma, in the past there have been two unsatisfactory features with regard to the operation—the four to six weeks required for healing and recovery, the possible tissue damage exemplified by variable quantities of scar tissue. When sulfanilamide is used in conjunction with surgery, recovery is usually complete by the end of the drug administration and the eyes are left in much better condition than when surgery alone is used.

A report made by Dr. K. L. Que, an authority in the field of trachoma treatment, showed that preceding the use of sufanilamide the average period of hospitalization was thirty-five days.

With combined treatment of sulfanilamide and one of the other accepted methods, the average duration was reduced to seventeen days.

After three years' trial in the treatment of 338 cases, Dr. Sory reported in 1942 that sulfanilamide by itself only exceptionally arrested trachoma and seemed less reliable than other accepted forms of treatment, but, when it was used in conjunction with other measures, recovery was accelerated and a high degree of efficacy was readily attainable. He noted that even with a combination of the two forms of treatment recurrences may occur, suggesting that trachoma may be arrested but not always cured. This study has continued until the present time and the number of cases has now reached 676 with the conclusions remaining the same.

A person who knows or suspects that he has trachoma owes it to himself and to the people around him to have his eyes treated. People who are free of the disease should not risk the use of towels, wash basins, handkerchiefs, pillowcases or other articles that have been contaminated by a person with trachoma.

From the standpoint of eradication, the health authorities have endeavored to treat as many cases as possible, to persuade as many sufferers as possible to seek treatment, and to instruct the patients and their associates in personal hygiene as a means of preventing the spread of the disease.

The remarkable progress in stemming the tide of trachoma in the mountains has been possible, to a large extent, in the fact that modern standards of living have now reached the hills. The isolation found by Dr. McMullen in 1910 no longer exists except in the remotest section. There are good highways, railroads and communications throughout the mountain regions. Modern cities, towns and villages nestle in the valleys with the same facilities for healthful living as can be found in any part of Kentucky. Because of these advances people of the mountains are growing ever more conscious of the necessity of a constant fight against trachoma. Through the efforts of an understanding public and the untiring determination of the health authorities the conquest of blindness in the hills has become a reality.

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Contact Lenses

(*Continued from page* 38)

eye. This arrangement results in possible chromatic (color) aberration, limitation of field (somewhat improved by modern wide angle corrected lenses), astigmatism (lack of point-for-point correspondence of object and image), alteration of perspective, induced muscular imbalance (due to prismatic elements introduced), difference in sizes of retinal images (so-called aniseikonia, so thoroughly investigated by the group of research workers in vision at Dartmouth College), distortion and marginal change in power. Quite an indictment of even our best spectacle lenses, you say. Yes, I'll say so!

On the other hand, contact lenses are made of two portions, fundamentally: one, the shell or scleral portion, which fits the front of the eyeball as the glove I mentioned a moment ago fits the hand—rather perfectly or neatly; and the other, the central portion, of much sharper curvature and rather small diameter (about one-half inch) which is the new cornea. Water slightly alkalinized fills the cup formed by the more sharply curved cornea so that when the contact lens rests in place on the eyeball there is a thin water lens between the artificial cornea of the contact lens and the real cornea of the eye.

When the contact lens is in position on the sclera (white part of the eye) and resting properly under the upper and lower lids, *the lens moves with the eye*. For this reason the eyes look through only the center of the artificial corneas. This eliminates most of the usual aberrations and undesirable attributes of ophthalmic lenses and reduces the remainder to insignificance.

We might be tempted to shout "Eureka," as did the great Greek scientist of centuries ago, but I must pause long enough to say that, as with all other things in life, there are some handicaps—some irritation, difficulty in learning to wear contact lenses and clouding or "veiling" due to changes in the so-called buffer solution between the eyeball and the lens. But I can state truthfully that, by various approaches and methods, modern science is overcoming these difficulties and thousands of people are now wearing contact lenses for hours at a time with satisfaction, without discomfort and with an ability to see unequaled by any other optical device.

The History of Contact Lenses

We all know the old adage that there is nothing new under the sun. Nothing springs into existence as a brand-new thing and in perfection. Just so with contact lenses. In 1827 Sir John F. Herschel, the royal astronomer, suggested the use of such a thin shell of glass as a device to protect the cornea from a diseased lid—a use to which contact lenses are put today. At that time astigmatism, which is chiefly corneal, was under investigation and Herschel suggested the possibility of using small, saucer-shaped lenses filled with a transparent jelly-like substance and placed in contact with the cornea to correct astigmatism. His suggestion was fundamentally 100 per cent good and today all types of regular and irregular astigmatism are neutralized or obliterated by the simple expedient of the water lens which bathes the cornea and fills the space between the real cornea and the artificial cornea of the contact lens.

The next record is the historic case of 1887, when Dr. Saemisch had the expert glass-blower Mueller of Wiesbaden make a glass contact shell for a patient threatened with loss of vision from ulceration and drying of the cornea. The patient wore the lens successfully for twenty years and retained useful vision to the day of his death. From this time on, many forms of glass contact lenses were made and used with more or less success.

Contact lenses as agents for correcting myopia, hyperopia and astigmatism came into existence through the experiments of Fick of Zurich, Switzerland. He was first to use the term "contact lens" *(Kontactbrille)*. He made molds of the eyes of cadavers and from these he had contact lenses blown for his own eyes. He reported that he could wear them for two hours without too much discomfort. These experiments of Fick led to the further work of German optical and ophthalmologic specialists and two types of contact lenses were evolved; the Mueller, or blown, type approximately fitting the sclera and having a useful transparent corneal portion capable of correcting refractive errors, and the Zeiss ground spherical contacts with varying scleral and corneal radii. In 1929 Professor Heine read before the Thirteenth International Congress of Ophthalmology at Amsterdam, Holland, a paper which caused worldwide interest because he demonstrated the practical value of contact lenses for correcting refractive errors due to hyperopia, myopia and astigmatism. Thus contact lenses were brought to the aid of the average patient having the ordinary forms of defective vision.

In 1932 Zeiss contact lenses were improved by being made available with scleral radii at intervals of 0.25 mm., and in 1933 Dallos, a Hungarian ophthalmologist now residing in London, largely solved the problem of adding high corrective powers to any contact lens. And so, year by year, progress has been made and, subsequent to the ready-made setup for fitting and selecting contact lenses, much has been done in America to make contact lenses to order and to fit perfectly and therefore capable of being worn all day long. Various individuals and optical companies in America have engaged in these practical researches and advances. It would not be cricket, as the English sportsmen call it, to name commercial companies or designate products, but I do feel at liberty to mention in alphabetical order the names of such workers as Anderson of Minneapolis and Feinbloom, Obrig, and Salvatori of New York, all of whom are well known to me.

How Are Contact Lenses Made?

The earliest types of contact lenses were of glass; then came the plastic molded contact lenses. The earlier forms of contact lenses, as I have pointed out, were stock lenses and did not fit the patient individually. The spherical glass contact lenses did not prove as successful as was hoped because scleras are seldom if ever spherical, the weight of the glass lens tends to prevent it from fitting properly over the cornea, and, since the lenses were made of glass, they were breakable. But the problem was solved by making perfect negative molds of the eye with a material known to dentists and called "negocoll." From the negative mold a positive cast was prepared from a paraffin-like substance known as "hominit." Now the positive cast is prepared by pouring dental stone into the negative mold. These positive casts are then used as the basis for making lenses conforming to the contour of the eyeball of the individual patient. Thus a contact lens is made to order and to fit the individual eye just as the custom tailor makes a suit of clothes for, and fits it to, the body of each customer. This proper individualistic molding and fitting of contact lenses is one of the principal reasons, if not the chief reason, why contact lenses can be worn comfortably all day long by most wearers.

The all plastic molded contact lens became a possibility when plastic synthetic resin was produced in 1936. The latest advance has been the introduction of new compounds, such as are used by dentists, for making the original (negative) molds of the eyeball. These compounds require no heating and subsequent cooling, as was the case with negocoll, and permit of easy removal from the eye and of correct impressions of the anterior surface of the eye.

From the individual molds are made the individual contact lenses. The refractive corrections are ground on the outer surface of the contact lens if the inner surface is already finished. The fundamental procedures of mechanical operation and surfacing are

the same as in all ophthalmic lens processes, although differing in many details. The optical calculations involved and the degree of precision and processes necessary in the manufacture of contact lenses are far too technical for inclusion here. The same degree of precision is needed as in the manufacture of high-grade objective lenses for microscopes. Furthermore, the ocular examinations and refractive corrections must be made with accuracy and the distance of the correcting lenses used in the trial frame must be carefully measured, since the contact lenses are to be worn on the eyes and not a half inch or more in front of them. So the whole procedure, from beginning to end, involves accuracy of method, of measurement, of manufacture and of fitting. Therefore, contact lenses must necessarily be rather costly in terms of the cost of the usual forms of spectacles. It remains to be demonstrated whether the advantages of contact lenses can outweigh the costs in money, time and patience that may be involved. In other words, are contact lenses a hobby, a plaything, an overemphasized and exploited optical product and hence a racket? Or are they really worth to many folks far more than their weight in gold?—for among the advantages of plastic contact lenses is their light weight, far less than that of an ordinary glass spectacle lens.

(To be concluded in the February issue of HYGEIA)

A.M.A. TEAM SURVEYS HEALTH IN ALASKA

ONE PHASE of Alaska's many-sided, acute health problem was illuminatingly discussed in "Alaska's Grim Fight" in the November issue of HYGEIA. All phases have recently been investigated by a team of five physicians sent by the American Medical Association in cooperation with the Department of the Interior and their report has been published in the A.M.A. *Journal*.

Tuberculosis, the subject of the HYGEIA article, was found to be the most urgent and important. The overall tuberculosis death rate in Alaska is nine times—of the native peoples, sixteen times—the rate in the States.

Clouding of the cornea, "the window of the eye," was observed in 22 to 50 per cent of the children examined in Alaskan villages. The cause is unknown. There is no qualified eye specialist in the territory. Venereal disease is prevalent, spreading at an alarming rate, beginning to infect natives in areas formerly free of it and, under the allotment system in which population is a major factor in obtaining federal assistance in fighting venereal disease, the problem is less than half met by the available funds.

Sanitation and facilities for the control of communicable diseases in the rapidly growing population are in a comparable state. Two hospitals were recently destroyed by fire and the need for additional, and better, hospital facilities is acute. Here again the allotment system stringently affects the funds available to the Territory under the Hospital Survey and Construction Act.

Alaska has no hospital for the study and treatment of mental diseases; it uses a sanitarium at Morningside, Oregon. Any person may swear out a warrant asserting that another is mentally incompetent and thereby compel confinement of the "suspect" in federal jail for ten days pending examination and release or commitment.

Alcoholism, as a disease, is epidemic in some areas. Its effect on clothing, nutrition and housing in the native villages was so clear that the mission reports: "It became easy, after a while, to determine from casual observation of the village whether alcohol was or was not a problem."

In addition to ten recommendations on specific problems the mission recommended that an Arctic Institute be set up for the study of the Far North and its bearing on health, sanitation, nutrition, engineering, food, clothing and footwear.

"This should be set up at the University of Alaska with federal funds, and it should coordinate the efforts of the armed forces and the various federal agencies. The resultant effects on the civilian economy of efficient means of heating, construction, sewage and water supply would be a boon to Alaskan development and defense."

In addition to the functions of survey and long-time recommendation, the team demonstrated late advances in technic and gave immediate assistance to Alaskan physicians in the organization of the existing facilities and personnel in public health and medical care.

Editorially the *Journal* notes that another team recently spent several weeks in similar assistance to the Navaho people on their reservation about Fort Defiance, Arizona, and visits are to be made soon to Puerto Rico and the Virgin Islands. "Here," says the *Journal*, "is practical cooperation extended to the indigent wards of our government medical service."

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HEALTH in the headlines

BY ELLWOOD DOUGLASS

THE DEADLY COTTONTAIL

An Indiana study of 616 cases of tularemia, a not usually fatal but prostrating and long-drawn-out disease, shows that it is most prevalent in November, December and January. This, the investigator reports in the *Indiana State Medical Association Journal*, is explained by the fact that the open season on cottontail rabbits in that state runs from November 10 to January 10. The infection is commonly acquired in dressing rabbits and preparing them for cooking. Tame rabbits or hares raised for the market are safe.

As the cottontail hunting season opened in Illinois, the state public health director said that three times as many cases of tularemia had been reported there as in 1946.

PENICILLIN IN SINUSITIS

A specialist reports in the *Archives of Otolaryngology* that, in laboratory experiments to test the effect of penicillin on infectious sinusitis, surface bacteria were destroyed and deeper infection reduced, but acute inflammation remained longer than where penicillin was not used.

SCHOOL HEALTH

A four-point school health program has been developed by the New Jersey State Department of Education, the New Jersey Medical Society and its Woman's Auxiliary. The four points are:

1. Wherever possible, the present "routine," assembly-line physical examinations of school children should be abandoned in favor of individualized studies by qualified physicians, properly remunerated. The child should be stripped to the waist. For obvious reasons, one or both parents should be present at the examination.

2. As a minimum, the examinations should be held on admission to school, to the fourth grade, to the eighth grade and to the twelfth grade.

3. Each county superintendent should be required to add a psychiatrist to the county school system—possibly on a consultative rather than full-time basis. One psychiatrist might cover more than one of the smaller counties.

4. All school teachers and adult school personnel should be x-rayed for tuberculosis every year rather than every third year, as at present.

The Woman's Auxiliaries of the various county medical societies are taking the initiative in organizing county councils to interest local authorities and voluntary agencies in each community in the program, which was developed in consultation with the A.M.A. Division of Health and Fitness, Bureau of Education.

NO STARVATION

The average person in England is living on an average calory level of 2,870 a day as compared with 3,000 before the war—and 3500 and up in

the United States. The sugar allowance, formerly 10 ounces a week is being reduced to 8. Bacon remains at one ounce a week and Englishmen will get 66 eggs this year as compared to 58 last year.

So far, says the London correspondent of the *Journal of the American Medical Association*, there is no "starvation," no detrimental effect on health; as the Minister for Economic Affairs puts it, the restrictions are "highly unpleasant but not disastrous."

COLOR CONFUSION

One of every 12 men but only one in every 500 women has deficient color vision, a Columbia University scientist says in a paper prepared for the Better Vision Institute. Color blindness is not really blindness but color confusion, he says.

"Most people know about the red-yellow-green confusion. But some color blind people make an even stranger mistake. They easily mix up blue-green with white. At night most of them have trouble picking out the blue-green traffic light from the ordinary street lights. When asked about this the color blind say that both blue-green and white look exactly alike, and that both are white."

Q FEVER

A laboratory for the study of Q fever has been established at Los Angeles by the United States Public Health Service in collaboration with the Los Angeles County Health Department. Since last May sixty cases of the disease have been diagnosed in that area.

HONORS

The 1947 scientific award of the American Pharmaceutical Manufacturers' Association has been voted by a committee of sixteen eminent scientists to the American Medical Association in recognition of its fundamental contribution to public health in the field of medical research.

The 1947 Elizabeth Severance Prentiss National Award in Health Education was conferred by the Cleveland Health Museum, first institution of its kind in America, on Dr. W. W. Bauer, director of the A.M.A. Bureau of Health Education, author or co-author of nine books, including the recent "Stop Annoying Your Children," and associate editor of HYGEIA.

CHILDREN IN NEED

The International Children's Emergency Fund, whose task of helping the sixty million undernourished children in Europe and the Far East was described in these columns last July, got under way in October with the shipment of three million pounds of powdered milk for children in Albania, Austria, Greece, Poland and Yugoslavia.

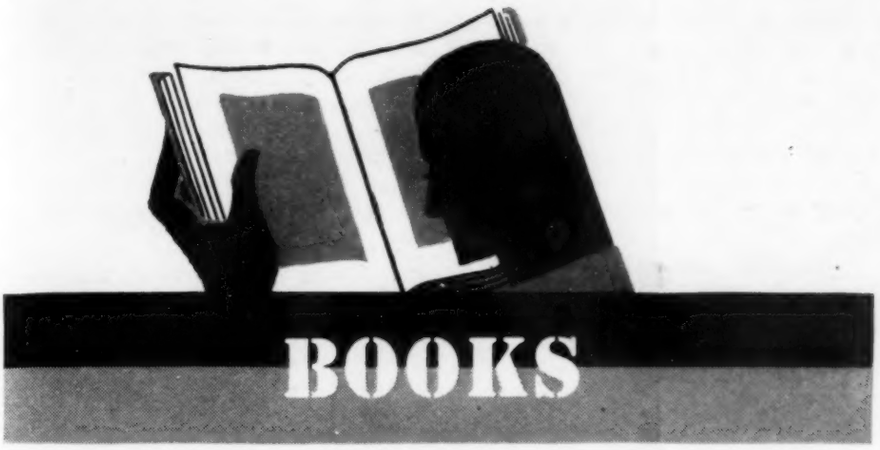
The United Nations is making a universal appeal this year to raise the 450 million dollars' worth of food, clothing and medical supplies that will be needed. Half is to be raised by the countries benefited.

NIGHT VISION

Wartime research disclosed that prolonged exposure to sunlight during the day reduces the efficiency of the retina by about 30 per cent and is, therefore, a chief cause of night blindness. This effect may persist as long as two weeks after the period of exposure, according to a report to a section meeting of the Philadelphia College of Surgeons on recommendations made by the National Defense Research Committee's vision committee.

"All persons driving in dusk and at

(*Continued on page* 74)



BOOKS

YOUR CARRIAGE, MADAM!

By Janet Lane. Second Edition. Published by John Wiley and Sons, Inc., New York; and Chapman and Hall, Limited, London. Cloth. Pp. 160. Illustrated. Price $2.50. 1947.

The first edition of this book was so well received that it is not at all surprising to find that there has been a demand for a second edition.

The approach to the subject of body mechanics or posture is unique. What might otherwise have been very dry and tiresome reading becomes interesting and even fascinating when presented from the standpoint of the relationship of carriage to beauty, athletic achievement and professional or business success.

Miss Lane manages to get across to the reader the idea that the achievement of good posture requires conscious and active alertness which makes for the best of muscle tone. Posture is a dynamic and not a static subject. Physical attractiveness is impossible without good posture, carriage and poise. Personality itself is made up of all of the things that are described in this book as essentials of good posture.

Physical therapists, teachers of physical education—in fact, every individual who takes pride in his or her appearance or who is ambitious to achieve business or professional success, should read this book.

EDWARD L. COMPERE, M.D.

THE HEALTH STORY IN HAWAII

By Public Health Committee, Chamber of Commerce of Honolulu. Paper. Pp. 111. Illustrated. Honolulu, 1947.

This pocket size booklet not only contains the health story in Hawaii but is a handy reference to all activities on the islands—their history, population, government, industries, churches, schools and many others. Not satisfied with the wealth of facts and information presented, the authors have illustrated profusely with well selected pictures and charts.

The health story is developed as an integral part of the people's day to day life with no effort to propagandize. It is surprising to find how well the health record of these little islands compares with that of the United States. In most instances it is as good, and in many it is better.

The story is of a people who have health problems peculiar to their own area and who have worked together to solve them. Without resorting to sob sister methods this booklet leaves one with the feeling that the good work being done is not without its heartaches and problems. GEORGE W. COOLEY

OVERCOMING STAMMERING

By Charles Pellman. Cloth. Price $3.00. Pp. 160. New York. The Beechurst Press, 1947.

This book, written by a former stutterer treated by Dr. Frederick Martin of Rhode Island, is remarkable for its sympathetic understanding of the emotional turmoil and the educational and social maladjustments that may both cause and result from handicaps in speech. The general therapy it advocates is "removal of worry" through explanations, guidance and rehabilitative group activities. With reference to the speech defect itself Pellman recommends exercise in voice building, consonant formations, self-permissive silences, syllabic speaking and finally, fully phrased and resonant speech. The writer cites Wendell Johnson's conclusions, derived from a study at Iowa State University, that stammering is the cause rather than the result of other emotional difficulties, but the rest of the book is an explicit or implicit denial of Johnson's inferences.

Indeed, despite a regrettably naive two-page "chapter" on psychoanalysis the author shows an intuitive appreciation of the personal and social travail of the stutterer and of his needs for skilful psychotherapy as well as specific treatment. Patients and specialists may find the contents of the book too diffuse and superficial, but it may prove useful as an introduction to parents and teachers concerned with the problem.

JULES H. MASSERMAN, M.D.

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(*Continued from page* 72)

night after a day in unprotected sunlight," said the speaker, "will lose at least half their night visual efficiency, thereby rendering their driving dangerous, uncertain and fatiguing."

During the war, he related, the Marines heard Japanese broadcasts boasting that Shinto fighters had been selected for training as night killers and subjected to mysterious operations making the retina so sensitive that they could not go outdoors in daylight. On investigation, American scientists concluded the story was a fairy tale designed by the Japanese to "cover up" when they discovered that after years in the Pacific Islands they had actually lost night vision. The Marines found their foxholes "literally lined with boxes of vitamin A concentrates"—which the Americans had long since tried and found useless to restore lost retinal sensitivity.

DENTISTRY AND BACKACHE

Backache, which has been widely discussed as almost an occupational disease of dentists, was found in only four cases where it was clearly of postural origin in a study of 273 dentists reported in the *Journal of the American Dental Association.* Several other cases of backache were noted but in these "the backache may or may not have been aggravated by the operating position." Eleven cases of skin conditions caused by x-rays or frequent handling of certain dental drugs were found. On the whole, the investigators reported, these dentists seemed to be as healthy as the average man if not more so.

"COLD" COMFORT

Steam inhalations, says the *Journal of the American Medical Association,* are useful only to relieve the discomfort produced by the overheated, unhumidified atmosphere of most buildings in dry inflammation of the mucous membranes caused by colds and related infections.

When there is a profuse discharge, steam alone serves no purpose but, with the addition of spirit of camphor, compound tincture of benzoin or some other volatile oil, will produce some shrinkage and lessen the secretion to permit a few hours of comfort.

There is no evidence that inhalations have any effect except relief. Overuse of the medicants, warns the *Journal,* may cause irritation and prolong the disease.

VITREOUS TRANSPLANT

Transplantation in rabbits of the clear, semifluid vitreous that fills the eyeball has been reported in the *Archives of Ophthalmology.* Clouding of the vitreous, as by hemorrhage, is a cause of loss of vision. The scientists, whose work was done under a grant from the William L. Hernstadt Fund, successfully used vitreous not only from other rabbits but from other species. They pointed out that much further investigation is required before this promising technic to restore vision can be considered applicable to human eyes.

SAVING HUMAN LIVES

Fifty-three drugs requiring the use of animals in their production or standardization are listed in the *Bulletin of the National Society for Medical Research.* They include the preparations that protect us against such diseases as smallpox, rabies, diphtheria, tetanus, typhoid and so on, the

vitamin preparations that enable our children to grow straight-limbed and healthy, the blood plasma that saved thousands of American boys during the war and such lifesaving drugs as streptomycin, penicillin, insulin and digitalis.

INDUSTRIAL NEUROSES

A hundred-bed industrial neuroses unit has been set up at Belmont in Surrey as part of the British rehabilitation services, *New Health* of London reports. Patients are drawn from the Ministries of Labor and of Pensions and from regional rehabilitation officers. Workers discharged from the specialized neuroses unit with a clean bill of health find employment through the Ministry of Labor. In addition the Ministry has set up a Disabled Persons Employment Corporation to search out and develop opportunities for those whose disablement, including the neuroses, is lasting.

HEALTH AND HOUSING

"Health and good housing are partners," says the *Quarterly Bulletin* of the Louisiana state health department . . . Housing is "one of the more important unsolved public health problems in the United States" . . . The relationship lies in "the prevention of overcrowding and thus, indirectly, the prevention of such diseases as tuberculosis, the respiratory infections,

emotional disturbances and the contagious diseases of childhood . . ."

The bitterest piece of statistics this writer has ever seen is a Public Health Service graph of tuberculosis deaths against average rent in the various census districts of Chicago. As one would expect, the death curve comes down as average rent and housing quality rise.

But one notoriously congested district breaks flagrantly away from the general pattern. It is inhabited principally by Negroes, whose inability to find homes outside the area increases overcrowding and rent and depresses the quality of housing.

There, though the average home rent is higher than in some other Chicago areas, annual deaths of tuberculosis jump to a figure that cannot be expressed by the mathematics of the "median curve" and instead appears as an isolated dot high in the upper left-hand corner of the graph.

Nor is that fact of merely humanitarian or "sentimental" interest. That area, like its counterparts in many other American communities, is not self contained; thousands of its residents work in industries and homes in other areas. Until such community foci of infection are cleared up, as physicians have urged for years, their more fortunate neighbors are not safe. . . . The penalty of bad housing, says the Louisiana *Quarterly Bulletin,* is "human erosion."

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